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ARTICLE I.

IS THE "BACILLUS LEPRÆ" A REALITY OR A FICTION? A Critical Review by DR. H. D. SCHMIDT, Pathologist of the Charity Hospital, of New Orleans, La. Read before the State Microscopical Society of Illinois.

The question whether the pathological changes, observed in the various tissues and organs of fatal cases of leprosy, were originally caused by parasitic organisms, is not entirely new, but dates back to 1870, when Hansen published his first observations on the subject. These observations, however, failed to be generally corroborated by other pathologists, who, also, had ample opportunities of examining the tissues of lepers, until 1879. Neisser directed anew the attention to the subject by announcing that he had discovered a special variety of bacillus, which he regarded as the true cause of the disease. Since that time, the interest taken in the subject by the medical profession has increased, not only on account of a more recent publication of Hansen, in which he claims the priority of discovery of the so called bacillus

lepræ, but, furthermore, on account of the statements of two or three other observers, who also assert having seen the true bacillus of leprosy. During the year 1880, I had opportunities of studying the pathological changes, characteristic of leprosy, in three fatal cases of that disease, without, however, succeeding in discovering those granular masses enclosed within certain cells formerly described and regarded by Hansen as peculiar to leprosy; the later observations of this author, published in 1880, were then unknown to me. The results of my studies I embodied during the ensuing winter in a paper, published in the December number, 1881, of the "Archives of Medicine," and in which I also referred to the former observations of Hansen, while I hesitated to mention Neisser's bacillus for the want of confidence in the material in which he had discovered the organism. Thus matters stood, until not long ago, I read in some American medical journals that the bacillus lepræ had also, been seen upon this continent by Dr. I. Bermann, of Baltimore. This circumstance led me to make a careful re-investigation of the subject, based as in my former studies, upon a very close examination of a considerable number of very thin sections of leprous tissues and organs, treated with the famous bacteria detective, methylviolet. But as the principal object of this paper is to answer as satisfactorily as possible, the question by which it is headed, it becomes necessary to present to the reader some of the data relating to the history of the pretended parasites of leprosy, before stating the results of my more recent examinations, or before reviewing the statements of those observers who regard the pathological changes, characteristic of leprosy, as being caused by a special parasitic organism. For this purpose I shall principally make use of the numerous reports on leprosy, recorded in the "*Jahresbericht ueber die Leistungen und Fastschritte in der gesämmten Medicin*," edited by Profs. Virchow and Hirsch. To give to the reader an idea of the extent of the literature on leprosy, I may say that not less than 183 works and papers on this disease—including the Report of the Royal College of Physicians of London, 1867, which alone represents the facts extracted from 250 private reports—were reported in this great and unique journal since the year 1866. In nineteen of these reports or papers a microscopi-

cal examination of various tisues and organs had been made, though—excepting Hansen, Carter, Neisser, Hillairet and Gauché—none of the authors claim in any way to have met with bacteria in the tissues they examined. I may furthermore state that nearly every one of the authors of the above mentioned 183 reports—excepting again, Hansen, Carter and one or two others—pronounce the disease hereditary and not contagious.

Having satisfactorily introduced the subject by the above remarks, I shall briefly sketch the principal facts observed and relating to the parasitic organisms of leprous tissues, by simply quoting from the reports of the respective collaborators on leprosy in "Virchow and Hirsch's Jahresbericht," beginning with Hansen's first statements regarding the presence of bacteria in leprous tissues, reported in this journal, for the year 1870, vol. I. p. 257. In this report the following passage occurs: "When softening (emollition) of the tubercles takes place, peculiar elements appear, which the author, in his first article, regarded as being specific in nature, but which, in his second article, he attributed to the softening process. The latter may take a rapid course and appear one or two months before death, when all elements will be found disintegrating into fat and detritus; though it may also develop very slowly, in which case these peculiar elements will be met with as products of the retrogressive metamorphosis. With the beginning of the softening, the microscopical sections, show round, oval, spindle-shaped cells, with or without processes, which contain, besides the nucleus, one or more, larger or smaller, round, yellow, granular, small masses, not generally stained by carmine, though some of them may partially imbibe it. Sometimes they appear to be placed in a hollow space, frequently several of them fuse together within a cell, or are placed apparently free, as if escaped from the cells; their size ranges from that of a colorless blood corpuscle, to six or eight times as large; sometimes they fuse together into very irregular masses, exhibiting, frequently, semi-spherical prominences, which either appear to represent agglomerations of small masses, or to be surrounded by a colorless envelope. These masses, varying in their appearance and containing sometimes vacuole-like spaces, are represented by a number of drawings, etc."

In another paper, reported in the "Jahresbericht for the year 1874," vol. I, p. 441, Hansen states his reasons for regarding leprosy as contagious. The following passages occur in the reports: "The inoculation experiments, performed by the author have only given negative results. The author attaches no great importance to the examinations he made of the blood of lepers, but lays stress upon the constant occcurence of the 'brown elements' which he has formerly (1873) described, and which perhaps represents cells enclosing zoöglœa-masses. The culture experiments made with these small bodies—as well as with the rod-like bodies, also occurring in the tubercles—have given no definite results. To determine at present in what manner and by which elements, the disease is communicated, would be impossible."

The next allusion to the presence of parasitic organisms in leprous tissues appears to have been made by Carter in 1875, though there is no mention of his paper in the *Jahresbericht* for this year. The deficiency, however, is made up by a paper of G. Milroy, another known observer of leprosy, which we find reported (vol. I, p. 433) as follows:

"Milroy subjects to a critical examination the more recent views concerning the contagiousness of leprosy; he, especially, opposes the latest views of Hansen and of Vandyke Carter, who formerly was one of the most decided opponents of the doctrine of the communication of leprosy by contact, but who, of late, —led, as it appears, by the observations he made in Norway,— has made a turn to pass over into the camp of the contagionists. Milroy shows how little the facts, adduced by these observers in support of their views, will stand the test, and calls upon Carter, who has fallen a victim to the bacteria swindle, to furnish the proofs for the contagious importation of the disease to Honolulu, upon which he principally bases his view." To elucidate the preceding report I may remark that Carter is one of the most prominent contributors to the pathology and ætiology of leprosy; his observations were chiefly made in the East Indies, where, for many years, he was one of the strongest supporters of the hereditary and non-contagious nature of leprosy, but who, judging from the foregoing report, appears to have been induced by Han-

sen in Norway to embrace the doctrine of contagiousness and bacteria. It is thus that we find in the *Jahresbericht* for the year 1876, vol. I, page 373, his examination of the leprous spots mentioned as follows: "The histological examination of the diseased parts showed the generally unchanged skin and subcutaneous tissue densely infiltrated with a cellular mass, deposited alongside, and enveloping, not only the blood-vessels, but also the canals of the sweat glands, the hair follicles, the subcutaneous glands, and the nerves. Along and distributed between these elements were observed fine granular masses of a dark, orange-brown color, which, striated or aggregated, were, as it appeared, principally deposited along the lymphatics or smaller blood-vessels; upon the addition of acetic acid, a solution of carbonate of potassa, or sulphuric ether, they remained unchanged."

"In a second case of inveterate leprosy, in which the exanthema had appeared, the author had an opportunity to complete the above observations. Besides the before-mentioned pathological products, he found numerous accumulations of small spherical bodies arranged one along the other, the identity of which with micrococcus or zoöglœa masses became clear at the first glance. In dimension, form, and position these masses corresponded to lymphatic vessels, and a further examination showed, indeed, that they were deposited in these vessels, filling them almost completely; here and there the author met with larger empty spaces, corresponding to enlarged lymphatic vessels which had discharged their contents. There was nothing in the appearance of these embolic masses of micrococcus to distingish them from the ordinarily known forms; in the preparation examined they stood in intimate connection with the accumulations of the dark pigmented small bodies, so that, as the author suspects, this fresh leprous eruption has arisen from the remains of the former. The skin and its appendages were found perfectly normal."

The next observations of bacteria in leprous tissues are those of A. Neisser, the report of which, in the *Jahresbericht* for the year 1879, vol. I, p. 334, is as follows: "Neisser, in procuring preparations from leprous cadavers from Norway, found in all the fourteen pieces of skin and tubercles, in the liver, spleen, testicle, lymphatic glands and cornea, baccilli of the following

description: Small, slender rods, measuring in length about half the diameter of a colored blood-corpuscle, their breadth corresponding to one-fourth of their length. They resemble nearest the small bacilli met by Koch (*Ætiologie der Wundkrankheiten*) in the septicaemia of mice, except that they were not so delicate as the latter. They could not be recognized in uncolored sections. Their arrangement corresponded to the place in which they had been developed. They rested either in numbers of two or three, one behind the other, representing an apparently long, sometimes curved thread, or six or seven of them placed alongside of one another in a regular parallel position; or, they formed piles by overlying one another in all possible directions, the individual elements of which could only be resolved by a close examination. In old preparations, that is, in leprous products of later stages, the rods appeared to have separated into granules. which, however, had retained their arrangement in rows. To regard the latter as micrococci the author rejects, but puts the question "whether the formation of granules did not rather signify a formation of spores as a retrogressive metamorphosis?" In the skin the bacilli are equally distributed throughout all layers of the leprous infiltration; in the testicle they formed a dense, easily crumbling mass, filling the seminiferous tubular-like casts, while in the lymphatic glands they were dwelling along the margin. In the ulnar nerves the rods were wanting. Of the two probabilities that the bacilli either existed primarily, or represented only a secondary accident upon a favorable nutritive soil, Neisser inclines to the former, because the presence of this unique variety of bacteria, together with its great distribution, spoke in favor of it; though he is conscious that many clinical observations cannot be made to correspond with the view of leprosy being a bacteria disease."

In the *Jahresbericht*, etc., etc., for the year 1880, Vol. I, p. 388, we meet again with some communications on leprosy from Hansen, the report of which is as follows: "In the introduction to his explanation, regarding the 'Bacillus Lepræ,' Hansen first re-claims, in opposition to Eklund and Neisser, his priority. The statement of the former, that the minute rods, described at different times, could be readily found in the blood, he still—after

perfecting his method of staining—rejects. In preparations of the blood of lepers which had been kept in the moist chamber, however, he found pointed filaments of a specific nature. In ten series of examinations into the microscopical nature of the tubercles, Hansen always could show with greater facility those conglomerates he formerly described—masses of zoöglœa or collections of bacilli enclosed in cells—than to obtain an entirely satisfactory view of the arrangement and form of those rods. They were, however, present in the great majority of the preparations, while the presence of the jointed filaments was very irregular. Only, finally, with the assistance of the more intense (methylviolet) staining, has he succeeded in showing the rods, also, in sections of the tubercles hardened in absolute alcohol. As regards their signification of representing the true infections, or contagious matter of leprosy, Hansen expresses himself with a praiseworthy caution. This time, as before, he never obtained positive results, regarding contagion, by repeated subcutaneous incorporation of the matter of tubercles into rabbits."

In the same volume of the *Jahresbericht* we also find reported an observation, made by Hillairet and Gauché, concerning the presence of bacteria in the blood of a woman who had lived in the Cordilleras, before she came to Paris. I omit to cite this observation on account of its apparent unreliability.

In the *Medical News* of January 7, 1882, a communication from a correspondent in Baltimore to this journal will be found, which, for the purpose of referring to some special data it contains, I shall quote in full, as follows: "The Bacillus Lepræ.—The recent descriptions of Neisser, Eklund, and others, of the bacillus lepræ, first observed by Hansen, have awakened widespread interest in the pathology of leprosy. Dr. I. Bermann, of this city, has been able to detect the presence of the bacillus in leprous tissue, and to confirm the discoveries of the above-mentioned authors. Sections exhibiting the bacillus were shown at a recent meeting of the American Dermatological Association at Newport. Since then Dr. Bermann has improved his methods of preparation and investigation, and is now able to demonstrate the bacillus to perfection. His results were shown at a recent meeting of the Baltimore Clinical Society. The directions given

by Neisser for detecting the little organisms enable one to recognize them, but not with satisfaction. Weigert's method for investigating bacteria answer the purpose perfectly. The affinity of the bacillus lepræ for the aniline violet staining fluid is remarkable. By immersing the stained sections in oil of cloves for 48 hours, the violet color is removed almost completely from the tissues, leaving the bacilli stained dark purple and presenting sharp outlines. It remains very difficult to see them, however, even after this preparation, and objectives of high power (with small angle) must be employed. By using as a condenser, an objective of about one-quarter inch, for illumination, they come out with splendid definition. The bacilli are mostly to be found in the protoplasm of the cells, but may be seen elsewhere. Sections thus prepared and examined will satisfy the most incredulous. Dr. Bermann has been the first in this country, we believe, to detect the bacillus, and will shortly publish his observations in full."

Postponing for the present the review of the above-cited observations of Hansen, Carter, Neisser and Bermann, I shall first proceed to state the results of my recent examinations of a considerable number of sections of different leprous organs. These sections were cut during the summer, and following fall and winter of 1880, and since that time kept in a mixture of alcohol and filtered rain-water—50 per cent. of each—affording the sections, as may be readily understood, every opportunity of being invaded by bacteria, bacilli, or other fungi. A number of them, representing the skin, epiglottis, liver, kidney, lymphatic glands, supra-renal badies, etc., etc., were put into a strong alcoholic solution of methylviolet, half diluted with water, and left there for about sixteen hours, so that, when removed from this solution, they were found intensely stained; others, put into a watery solution of methylviolet, were found equally stained. After their removal from the staining fluid, the sections were put, first in commercial, and then in absolute alcohol, which caused them to part with the methylviolet they had absorbed almost entirely. Nevertheless, in order to follow closely Dr. Bermann's directions, they were then put in the oil of cloves—for which, however, very little color had remained to be extracted—and left there (unnec-

essarily) for from 24 to 48 hours, to be finally mounted in Canada balsam. In subjecting these sections to a close microscopical examination, I failed, notwithstanding their remarkable thinness and transparency, to detect even a single bacillus. The only parasitic organisms met with were an inconsiderable number of patches, or so-called zoöglœa of micrococcus, thoroughly stained by the bright blue of the methylviolet; but these, even, were principally confined to the sections of skin taken from the lobules of the ear from the first and third cases. The most of these patches were small, and ellipsoidal, or spindle-shaped in form, the smallest corresponding in size and outline to the larger or smaller spindle-shaped cells met in the corium of the skin, while the larger ones were generally composed of a number of the former, either placed one behind the other, or, in some instances, overlapping one another. In most instances, the long axis of these ellipsoidal, or spindle-shaped zoöglœa, was placed parallel with the surface of the skin, or with the course of the connective tissue bundles of the corium, though others were observed placed obliquely, or, also, to present irregular outlines. A few larger patches, round or oval in outline, and corresponding to the shape of a transverse, or oblique section of a larger vessel, were likewise met with. In all these patches of micrococcus, however, the individual micrococci could be distinctly recognized, particularly by their bright blue color, contrasting with the very feeble picro-carmine staining of the sections; the original structure of the latter showed as perfectly as 15 months before, when the sections were cut. In the skin, taken from the second case, no trace of micrococcus, even, could be detected.

But, as regards the micrococus-zoöglœa observed upon the sections of skin, it must be remarked that they were only found upon the corium of the skin on one of the lobule, the other side being perfectly free, and, by alternately changing the focus, it was furthermore found that the patches of micrococci rested almost always upon one, or the other surface of the section; in a few exexceptional instances, only, the minute patch appeared to pass into the section. But, even in these instances, a closer examination revealed them deposited in some interspace of the connective tissue-bundles, or, in a vessel laid open by being cut in an

oblique or longitudinal direction. The ellipsoidal, or spindle-shaped form, which, perhaps, the greater part of these patches or zoöglœa, presented, was very probably caused by the settling of the first individual micrococci upon one of those numerous spindle-shaped cells, met with in the corium, or upon a connective tissue bundle very obliquely cut, in consequence of which the patch, arising from those first settlers, finally assumed the form of the host upon which it grew. In the same manner, the colony may, in other instances, have assumed the form of a vessel by having settled and grown into the lumen laid open by the knife. Those zoöglœa of a round or oval form, generally larger in size, and by their greater thickness less transparent, were most probably deposited in the transversely, or obliquely cut lumen of a large vessel. Now, whether the ellipsoidal, or spindle-shaped forms of the patches were really determined by the causes I have pointed out above, or whether the latter assumed these forms independently of these circumstances, I would not positively assert, though the explanation I have offered appears to be the most plausible. Neither do I deem it necessary to further speculate, in this place, as to the cause of the irregular forms, or those patches placed obliquely to the course of the fibrous bundles of corium; though, before dismissing the skin, I repeat: *that in no instance did I ever observe micrococci lodged in the interior of any of the cells*, notwithstanding the sections being sufficiently thin to have shown the parasites, even without staining.

The next, and only remaining instance, in which I met with micrococci, was in a small number of empty uriniferous tubules, contained in some exceedingly thin sections of the kidney taken from the first case. In these tubules, represented only by the basement membrane, the layer of micrococci, if such they were, was very thin, and presented a very faintly-colored appearance, so that the question may still be asked, whether these faint, granular masses might not represent degenerating, granular, urinary cylinders. At any rate, the tubules had been laid open by the knife, affording an opportunity to the parasites to found a colony in the lumen of the former. In these sections, also, not a trace of a bacillus form could be discovered.

Finally, the exceedingly fine filaments of a fungus, about $\frac{1}{1600}$ m.m. in thickness remain to be mentioned; they were observed to spread *over* some sections of tongue, liver, kidney, and lymphatic gland, but in no instance entered the tissue; on the contrary, in order to render these filaments distinct, the objective had to be adjusted so far away from the section as to bring the histological elements of the latter entirely out of focus.

It appears to me almost superfluous to enlarge to any extent upon the signification of the presence of the micrococcus-zoöglœa, or upon that of the fine fungous filaments, found, as stated above, upon some of the sections, for it is obvious that they are deposited after the latter were cut. And, in regard to the fungous filaments, I hestitate not to to say that, being very readily stained by hæmatoxylin, I have observed them well enough during my first examinations in the pathology of the disease—but, knowing, at that time, that they bore no relation whatever to the tissues I was then studying, it never entered my mind to create a sensation by mentioning them in my paper. At what particular period of the process of preparing the sections they found their way upon the latter, I am unable to say, but it must be known to every practical histologist that solutions of carmine, or of hæmatoxylin, do frequently attract fungi, and that, in the above case, the germs may have settled upon the sections while lying in the staining fluid, or, subsequently, in the mixture of alcohol and water, in which I generally preserve my sections before they are wanted. The micrococci, found upon the sections which I recently examined, may have been deposited since the time of my first examination—that is, while they were kept—each kind of section in a separate bottle—in the alcoholic solution. This becomes the more probable in calling to mind the sections of skin, upon which the micrococci colonies were only found deposited upon one-half of the surface, for the reason that the other half was very likely protected by another section lying upon it.

In summing up, now, the above stated results of my recent examinations of leprous tissues, we find that in these three fatal cases of leprosy, which came under my observation, the "Bacillus lepræ" could not be found, a circumstance which justly entitles us to entertain serious doubts as to its real existence. But

before further commenting upon the subject, let us review the statements of those observers who claim to have beheld this parasitic organism. Thus, in referring to the statements of Hansen, made 1870, and cited in the beginning of this article, it will be noticed that the "peculiar elements" appearing in the course of the softening of the tubercles—and which this author formerly regarded as specific in their nature—he now attributes to this process, and regards them as products of a retrogressive metamorphosis. The granular masses to which he refers, and which he describes as not generally stained by carmine, though some of them may partially absorb it, I am inclined to identify with those large groups of more or less degenerated neoplastic cells, originally derived from the nuclei of the fat-cells, and replacing the latter. These groups are mostly found lying free in the areolar spaces of the corium, or subcutaneous connective tissue, and, in accordance with the degree of degeneration which they have undergone, either absorb or refuse the carmine. In my paper on the pathologicel anatomy of leprosy, I have sufficiently described the groups of cells, but have, unhappily, omitted to mention certain collections of very fine, slightly curved and sword-shaped crystals of margaric acid which I observed in many of these degenerating, compound cellular bodies. These crystals, though easily recognized, might nevertheless, in sections not stained with hæmatoxylin, or methylviolet, be taken for bacilli. In many of these cellular masses some of the nuclei are still observed, especially if the preparation has, after the picro-carmine staining, been feebly stained with hæmatoxylin, such as I have indicated in my paper. In other instances the nuclei have entirely disappeared by the advanced degeneration of the cells, and nothing but the fine irregular outlines of the latter are left, the whole mass being stained yellow by the picric acid.

There are no special remarks to be made upon the statements of Carter, as they clearly show that the minute organisms which he observed presented—as he states himself—nothing to distinguish them from the ordinarily known forms of micrococcus. Though I know nothing about the manner in which Carter preserved and prepared his leprous tissues, I nevertheless presume that his micrococcus lepræ—if such we may call it—is identical

with the one which I met in my recent examinations, and may be traced back to the same origin. The former observations of Hansen with those of Carter, therefore, do not present the slightest fact to justify the theory of the parasitic origin of leprosy.

In reviewing the observations of Neisser, it appears from his description that he had real bacilli under his microscope. The presence of these organisms in the leprous tissues which he examined, however, loses very considerably in significance by a consideration of the manner in which he procured his material, as we do not know how many hours after death these tissues were removed from the cadaver, and how many chances they had of being invaded by bacilli, before they even reached the hands of the investigator. But in comparing the statements of Neisser with the more recent observations of Hansen, the probability of the presence of bacilli in the tissues they examined gains somewhat in strength, though I am still far from understanding how these organisms made their way into the interior of the cells. The statement of Neisser that in leprous products of later stages the bacilli should have resolved into granules—which, having retained their arrangement in rows, he regards as spores—throws much doubt upon the exactness of his examinations, for it is clear that these granules represented sphero-bacteria, such as they are often observed in the vicinity of micrococcus-zoöglœa. The same may be said of the dense, crumbling masses, filling up the seminiferous tubules like casts. On the whole, Neisser's view, that the presence of these organisms in the leprous tissues is primary, certainly rests on a very weak foundation, rendered more apparent by his acknowledgment of being conscius that the clinical history of leprosy cannot be brought into harmony with the prevailing bacteria theories. Hansen's observations, on the other hand, appear to be more trustworthy, as he freely acknowledges the existing defects of the observations, stating, for instance, that he could not obtain an entirely satisfactory view of the arrangement and form of the rods; the presence of the rods in the blood of lepers he positively denies. The observations made on blood kept in the moist chamber I regard as unreliable, for the reason that the minute organisms are found everywhere,

very frequently in places where no account can be rendered for their presence. The various attempts made by Hansen for the purpose of producing the disease in rabbits by inoculation of leprous matter, have, as we have seen, also failed.

Finally, in the report of Dr. Bermann's observations, regarding the existence of the bacillus lepræ, we meet with the same flaws as in those of the preceding observers. The very confession, made in this report, that even with the methylviolet staining, it still remained very difficult to see the bacilli, and that an objective of high power with small angle must be employed, renders the whole observation doubtful; for I may safely assert that if the bacilli are really present in the section, and the latter is sufficiently thin, they can be distinctly seen—particularly when stained with the mithylviolet—even with an amplification as low as from 300 to 350 diameters. Neither is it necessary to employ a condenser, for a good mirror with a clear, bright daylight, and a small diaphragmatic opening closely applied to the object, will answer all purposes. The only essential condition is that the sections be sufficiently thin to be rendered perfectly transparent. Anyone interested in the subject may convince himself of these facts by putting a small quantity of hay into a wide-mouthed bottle containing water, and setting it aside in a warm place. After the lapse of a few days a delicate pellicle will appear upon the surface of the solution, and, if a drop of the latter with a minute portion of the former is examined under the microscope, bacteria and bacilli of various kinds will be met with, and distinguished without difficulty, with the powers I have mentioned. To render them, however, still more distinct, a drop of the solution may be spread upon a glass slide and left uncovered until nearly evaported, when a drop of a solution of methylviolet is put upon the residue, and a thin cover-glass made to rest lightly upon it. Before long the organisms will have absorbed sufficient staining material as to appear still more distinct under the microscope. Thus, it will be found that the detection of these minute organisms is by no means as difficult as some enthusiastic germ-theorists represent it. In fact, there are many objects met with, both in normal and pathological histology, the nature and rela-

tionship of which are much more difficult to determine than to recognize a bacterium or bacillus.

But let us return once more to the bacilli met with in the leprous tissues by the above-mentioned observers, and, while admitting the truth of their statements, ask for the signification of the phenomenon, or its bearing upon the origin of leprosy. There is no other answer to this question, but a simple denial of any relationship existing between these organisms and the original cause of leprosy, until they can be shown in the blood of *every case* of this disease, and, more, *in such numbers* as to render their noxious influence upon the human organism evident. We may furthermore ask an explanation for the total absence of bacilli in the numerous sections—taken from the organs of three typical cases of leprosy—which I examined, even with the assistance of the bacteria-detective, the methylviolet. The discrepancy existing between the results I obtained myself and the statements of the above observers, can only be explained by either presuming that some mistake has been made on one side or the other, or by supposing the bacilli to have entered the tissues from without. The latter may take place through an ulcerated tubercle, or by the deposition of some of the organisms upon the sections in the manner I have explained above; or, also, the bacilli may have found access into the pieces of tissue after these were removed from the cadaver and before the cutting of the sections; this supposition is applicable to the tissues Neisser had before him. There are a number of ways by which bacilli may enter the tissues, leaving aside the possibility of these organisms arising as products of the disease in the living tissues themselves, a view which does not lack supporters. At any rate, the tissues which I examined were tolerably fresh, the autopses having been made but a few hours after death.

In conclusion, I may say that the opposition, taken by me in the above review against the theory that leprosy is caused by minute parasitic organisms, is not based upon pre-conceived notions; on the contrary, I am far from denying the possibility of bacilli causing certain diseases, as, for instance, splenic fever, though here, it must be remembered, the bacilli are found in the blood itself, or to obstruct the smaller blood-vessels and lymph-

atics in the form of emboli, while, as far as I know, they have never been observed in the protoplasm of cells. But admitting, even, that such a phenomenon actually presented itself in leprosy, its explanation, that is, the way by which these organisms entered the interior of the cells, would still remain obscure unless we take recourse to the supposition that they originated in the protoplasm itself. Excluding, however, their origin within the tissues, there remain only two ways by which they could enter the human organism; these are, either through an open lesion, or by entering the blood through the lungs or alimentary canal; and, it is not at all improbable that in some instances they may enter through an open lesion, especially at the time when the tubercles commence to undergo softening and ulceration, such as Hansen has stated. Their presence in the blood this author has repeatedly denied. In my own examinations I have never observed the slightest trace of a bacillus in the smaller blood-vessels, notwithstanding the sections examined were sufficiently thin for recognizing with the greatest distinctness the blood-corpuscles contained within. Besides, the clinical history of leprosy is so well known that I may refrain from further showing the difficulty of making the characteristic symptoms of this disease harmonize with the bacteria theory; in every instance where bacteria or bacilli are really met with in the tissue it must be presumed that they arrived there by accident and in search of a nutritive soil for their development. But as it is desirable that the truth should be ascertained, and as I fortunately still have numerous sections of various leprous tissues—kept in alcohol and water—on hand, I shall be pleased to furnish, upon application, a number of them to any competent pathologist, who would like to investigate the subject with the view of publishing the results of his examinations.

A number of microscopical preparations taken from each of these cases, accompanied this paper.

Dr. Schmidt requested that a committee be appointed to examine them in order to determine whether they would substantiate the statements which he had made concerning them. The

following committee was therefore chosen, who reported as follows at the meeting of the society:

"The committee appointed for the purpose would report that they have examined the slides accompanying Dr. Schmidt's paper, and would say that they have been unable to find any bacilli in them. The slides appear to agree in every respect with Dr. Schmidt's statements in regard to them.

"LESTER CURTIS, M.D.,
"Prof. of Histology, Chicago Medical College.
"JAMES NEVINS HYDE, M.D.,
"Prof. Dermatology, Rush Medical College.
"CHRISTIAN FENGER, M.D.,
"Pathologist to Cook County Hospital."

ARTICLE II.

MEMBRANOUS DYSMENORRHŒA. By I. STROINSKI, M.D. Chicago.

It is a rather difficult task to throw light upon this hitherto obscure disease, and it is my endeavor to write only after careful investigation of the sympathetic nerves of the abdominal system, a problem not very easily solved. My clinical observations of this disease have been extended. During a course of travel on both sides of the ocean, I have had the opportunity of making more examinations than many other physicians.

Virchow first endeavored to explain membranous dysmenorrhœa, and he called the product of the womb, the expelled membrane, "decidua menstruations;" a name maintained up to this day. He considered the process as a desquamative one, similar to that of the skin, and originating from a proliferation of the cellular tissue. Hausmann * declared the disease to be a "retrogradation of the germinal layer," in the sense of Darwin, and he thought the development of the membrane to be equivalent to that in pregnancy. Clarke and Williams opened a wider field; they proved the protuberances on the outer layer of the

* I would call the attention of R. Barnes, in London, and other authors, to the views of Hausmann, changed already in 1871, and given in the *Zeitschr f. Geburtsh* (Band I, Heft II.)

membrane to be elongations of the utricular glands, and taught that the membrane was in the same state of development as in pregnancy. Engelman and Kundrat enlarged upon these views by proving that the process was that of fatty degeneration, but they were mistaken in assuming the membrane to be in the same state as in pregnancy. Wyder has undoubtedly proved that the cells of the cellular tissue are in menstruation and membranous dysmenorrhœa different from those in pregnancy.

I had the opportunity of making experiments on the sheep on a large scale some years ago. Here the left spermatic ganglion is easily exposed while situated on the outer margin of the peritoneal duplicature, and it is easily separated by paring it from the adjacent spermatic vein and artery. Pressure (with a small clamp) on the ganglion excited the ovary, and the uterine membrane discharged a considerable quantity of a clear mucus. By continued pressure the blood-vessels of the ovary enlarge, and the ripening follicles swell, the uterine vessels enlarging but to a small extent, and the glands pouring out a considerable amount of mucus. A mild galvanic current, the positive pole inserted into the ganglion, the negative pole either into the trunk of the plexus or into the uterine membrane, excites the membrane to that state called irritation, and described below. A strong current causes all the incidents described below as continued irritation. Resection of the ganglion and a part of the spermatic plexus bring forth the most copious discharge on the opposite side of the uterine membrane, which is only surpassed by the discharge of fluid into the intestines after the resection of the mesenteric plexus.

Free phosphorus, applied either in the form of a paste or as a vapor, to the exposed ganglion, acts as a powerful agent on the nerves and the uterine membrane. After the application of the phosphorus to the ganglion, the adjacent parts being protected by waxed paper or cloth, the nerves will be found to be changed so that the axis cylinders look like hard cooked albumen, the uterine membrane being in the same state of fatty degeneration as in membranous dysmenorrhœa. The effect on the uterine membrane can be seen after ten minutes' action of the phosphorus vapor, but the operator has to be very careful not to come in contact

with the vapors from the iron bottle. The fatty degeneration evoked by the phosphorus vapor will be partially restored to the normal state by applying a mild galvanic current to the ganglion and the uterine membrane. By applying the vapor to the uterine membrane, there will be seen a degeneration of all the sympathetic nerves supplying the uterus, and the degeneration in the spermatic plexus will reach the point of connection with the renal nerves. The application of phosphorus has been, in my hands, the only means of detecting a degeneration of the sympathetic nerves visible under the microscope, and I must assume that phosphorus-poisoning by the stomach acts directly upon the gastric sympathetic fibers, which by reflex action causes those lesions in the body found in phosphorus-poisoning; the blood dissolving the phosphorus to so small an extent as to be uninjured. The casting off of the uterine membrane in cholera will appear not so marvelous when it is remembered that a sudden reduction of the temperature in the lower parts of the body affects the intestines so as to cause diarrhœa.

In irritation, from whatever cause, the uterine membrane undergoes the same anatomical changes as does every other nutritive membrane. The epithelial cells of the utricular glands, which are of a columnar ciliated form, and which enclose a large nucleus of lucid appearance, containing prepared mucus, discharge the mucus, and the nucleus is restored by immigration of coarse granulated protoplasm. In continued irritation, the supply of protoplasm is not sufficient, and other substances, such as fatty matter, enter the cell, but the latter not being able to assimilate (digest) these substances, they are thrown out, and there is but an empty shell; the cell is dead, and will be thrown off. The epithelial layer of the utricular glands is lined by a basement membrane of a protoplasmic character, supplying the epithelial cells. It disappears (is devoured) by continued irritation. The epithelial tissue of the membrane itself plays a rôle similar to that of the glands. The cellular tissue of the utricular glands consists of small round cells, filled with a protoplasmic nucleus, the latter containing mucus in a state of rest. These cells discharge the mucus in a state of irritation, and they fill with protoplasm; but in continued irritation the protoplasm contracts, and the

empty space is filled with other material, mostly of a fatty kind. The intercellular tissue of the glands takes on an inflated appearance, and causes the enlargement of the glands. But there are some small ovoid cells interspersed between the round cells, and they take no part whatever in irritation, but in gestation they emigrate, multiplying in a marvelous manner, take on a rounded shape, and form the greatest part of the decidua serotina.

The cellular tissue of the membrane itself undergoes a change similar to that of the utricular glands, but there is no prepared mucus contained in the cells. In irritation this tissue takes a negative part, but by continued irritation the protoplasm is partially discharged, and the cells fill with a turbid matter and oily drops; the intercellular tissue being swollen to a considerable degree. The highest point of fatty degeneration, that of induration, will be reached by phosphorus-poisoning and in membranous dysmenorrhœa. Here the epithelial tissue is changed to a lamellous, leather-like structure; the intercellular tissue to a true fibrous substance; the cells of the cellular tissue, in the glands as well as in the membrane itself, are filled with oily matter, or their contents thrown out entirely; the glands are very friable, and only the lower part of the glands, imbedded in the uterine substance, is in a healthy state. The blood-vessels of the upper layer are contracted so as to contain no blood; the membrane in its upper layer is dead.

From all my investigations, the full details of which cannot be described in these limits, I have formed the following theory of menstruation in general, and of membranous dysmenorrhæa in particular:

I consider it to be a law of nature that in every living individual, in plants as well as in animals, there are developed at certain times and at certain places one or more distinctly formed cells, which, mostly after impregnation by another but differently constructed cell of the same or another individual of the same species, develop an individual similar to that from which it is the offspring. The development (ripening) of the cell (ovum) before impregnation, I regard as a factor *per se*. This development (ripening) of the cell (ovum) reproduces in the affected individual a series of varying changes in the adjacent parts

(genital apparatus). These changes are always dependent upon the presence of a ripening ovum. In all the mammalia, including the human female, these cells (ova) are implanted from the epithelial germ layer, and each of these very numerous epithelial cells is capable of becoming a new individual. But nature dispenses her gifts in abundance, and thus but a small quantity of the ova ripen, and but a very few come in contact with the elected spermatozoön to form the zoösperm, *i. e.*, the new individual. The ripening ovum causes a proliferation of the epithelial tissue in the Graaffian follicle, with serous exudation into the same. The Graaffian follicle enlarges, and by its growth the ovarian nerves will be irritated. The growth continuing, the uterine fibers will be irritated by reflex action, and there will be a discharge from the uterine glands; the ovum prepares thus its food, the uterine milk, which is necessary for the developing impregnated ovum. In all the mammalia this process is always the same. But in the woman, endowed with a very sensitive system, nature makes an occasional *faux pas*. The continued irritation of the lower sympathetic system excites the upper part, and finally an over-stimulation of the vaso-motor center. The uterine blood-vessels become enlarged by the paresis of the vaso-motor center; they form ecchymoses and burst. Thus the original process is rendered indiscernible. Sometimes the sympathetic system at large is in a hyper-sensitive state, so as to excite the capillaries of other membranes (skin, bronchial membrane, conjunctiva, etc.), which will burst and discharge the blood from these places, in which a good Catholic may discern his "saints." The uterine membrane is decidedly of a nutritive character, the glands supplying the uterine milk for the impregnated ovum, the winding course of the blood-vessels being instituted for nourishing that part of the body which becomes a new individual (embryo).

The menstrual process in all the mammalia and the beginning of menstruation in women bear a striking resemblance to digestion, the minute anatomical changes in the uterine membrane being the same as in the gastric membrane, and I regard menstruation at large as a nutritive irritation excited by the reflex action from the irritated ovarian nerves. But in women nature makes a second *faux pas*. The uterine nerves

being over-irritated and the glands being exhausted, there appears a fatty degeneration in the uterine membrane, so as to cast off a part or the whole membrane. But here we must find the limits between the physiological and the pathological state; between health and disease, by the clinical history.

It has been my lot to register in the last twelve years, while practicing in both hemispheres, thirty-five cases of membranous dysmenorrhœa, a number which seems to be incredible compared with the reports of others. But I must add immediately, that in fourteen of these cases the membrane has been cast off but once, with all the symptoms of an acute attack, the most cases occurring in the country. That the cast-off membrane was not an abortive decidua the following phenomena would teach me, but the microscope has always been my resource in detecting the characteristic form of the cells.

In a mill situated in a low valley, bordered by high mountains, where in every spring the valley was overflowed for weeks, I have seen three servant girls suffer from the disease, the lady of the house also suffering from it for fifteen years. I will relate one of these cases, the first to occur in my practice.

This servant had been delivered six months previously of a still-born child, the menses reappearing six weeks after the confinement. In scrubbing the front steps of the house in winter time, with bare feet and unprotected limbs, as is the general custom among the laboring women in Germany, she took cold, and had a slight fever in the night, with a chilly sensation creeping from her feet up to the abdomen, but the next morning she was quite well. In the next menstruation, there came on intense pains in the suprapubic region, which lasted for two days, followed by the expulsion of a membrane, and then a considerable flow of blood set in. The membrane was instantly recognized by the lady of the house, and I examined the girl and the membrane. There was no inflammation either in the meso or endometrium, and the uterus had the normal size. The ovaries were normally situated, and without pains. The membrane showed the well-known bag with the serrated opening on the os internum and the orifices of the Fallopian tubes. The openings of the glands were visible with the naked eye, and they had the mosaic-like appearance

resembling the eye of an insect. Not being acquainted with the treatment of the disease at this time, I dismissed the girl. Two years later I saw her again, with a baby on the arm. She had had the same phenomena as long as she served in the mill (for six months), but by removing to a village in the mountains, the membrane slowly disappeared, and her lover having come home from the war, she married and became pregnant.

A very different course was that of another case. The only daughter of a wealthy farmer in Iowa went to a party, where she danced all night. In going home (about one mile) the girl took off her stockings and shoes, her feet being sore from the dance, and walked home barefoot. When in bed she felt a cold sensation extending from her feet to her bowels, and a fever set in, which lasted but a few hours. She rested the next day, and then went to work as usual. At the time of the next menstruation she awoke with terrible pains in the suprapubic region and in the bowels, which lasted for three days. The mother of the girl feared that something was the matter, but I could assure her that the girl was a virgin by removing the membrane from its place under the well-developed hymen by a pincette. The same symptoms reappeared with the next menstruation, and after four months the formerly healthy and well developed girl began to fail. There appeared red spots * on the chest and back, which were sometimes of the same intense color as in scarlatina. Contractions of whole groups of muscles set in, and the girl was hysterical and anæmic. A tour to the South relieved her somewhat, but after staying home for a short time the same phenomena reappeared. The hitherto refused local treatment was now accepted; one electrode inserted into the cavity of the uterus—the thick hymen being excised—the other alternately on the right and left ovarian region. A mild galvanic current was applied every second day. The next menstruation appeared without intense pain, and there were thrown off only small pieces of the membrane. The treatment was continued for four months, and the girl restored to her full health. She has married since, and borne children, without any relapse of the disease.

* Cohnheim, at Berlin, described these spots in a recently published paper, and he thought, from the same spots appearing in hysterical persons, the disease to be an offspring of hysteria.

A very remarkable course was taken by another case in one of our suburbs. An Irish woman suffered from membranous dysmenorrhœa for eight months. Alternately with the expulsion of the uterine membrane there were separated from the bowels, mostly from the colon, large pieces of mucous membrane under the same intense pains. After I had treated her but a few times, she took sick with a true erysipelas faciei (erysipelatous dermatitis), which assumed a severe grade, but she recovered. Since that time there has never been cast off a uterine membrane, and her menstruation is as regular as before.

It is very seldom that physiological experiments reveal the cause of the disease and indicate the treatment at the same time, but, as I have shown above, there will be a partial restoration of the uterine membrane after degeneration by the phosphorus vapor in applying a mild electric current to the spermatic plexus and the uterine membrane. I have treated a case of membranous dysmenorrhœa of sixteen years' standing by the galvanic current with the best success, a complete cure; but the treatment had to be continued for eighteen months before the uterine nerves were fully restored.

Cases of a shorter duration demanded, of course, a shorter treatment; and I can say that I have succeeded in every case where the treatment had been kept up for the time necessary to complete a cure.

The inflammatory symptoms, as meso, or parametritis, chronic ovaritis, salpingitis, etc., I have found to be connected with the disease when the membrane had been expelled for a certain length of time, the nerves of the ovary, and those supplying the parenchyma of the uterus, or the ligaments and Fallopian tubes, becoming affected more or less. But in recent cases—and I have examined nineteen such—the uterus and the ovaries were painless, *i. e.*, without inflammation. I must therefore declare the disease *not* to be of an inflammatory character, as the most authors describe it. All the symptoms which will be found in old cases are the *result* of the disease, but not its cause.

As to the name of the disease, I will call it what it is—a paresis of the uterine nerves, and especially those springing from the spermatic plexus. I will leave it to the gynæcologists of Athens to endow it with a proper Greek title.

ARTICLE III.

THE FORCEPS BLADE DIRECTOR; An Instrument Intended to Facilitate, under Certain Conditions, the Introduction of the Blades of the Obstetrical Forceps. By JOHN BARTLETT, M. D., Chicago.

The object of the writer is to present to the profession an instrument calculated, as he thinks, greatly to facilitate the introduction of the obstetrical forceps under certain conditions. Serious difficulty is sometimes experienced in applying the blades to the head high in the pelvis, or perhaps entirely above its brim, when the os is but partially dilated. In the attempt to introduce the second blade in these cases, it is occasionally found that the right margin of the os, because of the tension made on the opposite circumference of the opening by the shank of the blade already in position, has been drawn to the left quite beyond the median line. So that a blade, introduced into the os with difficulty, is estopped from gliding into its true position by impinging against the *left* plane of the presenting globe of the head, and is invited by this plane to pass on to the left side of the pelvis in company with the blade already introduced. To overcome this difficulty it is necessary in some way, by the fingers or the point of the blade, to draw or push the displaced circumference of the os so far toward its proper position on the right as to permit of the point of the blade's reaching and gliding upon the right plane of the globe of the head. The maneuvers necessary to accomplish this end are especially difficult when the vagina is narrow, the head high, and the os uteri small. For under such circumstances, the fingers serving as directors of the blade and retractors of the os fall short, and are frequently unable to retain their position at the mouth of the womb, at the same instant that the blade is pushed upward to enter it. As a result of these difficulties the practitioner, vainly resorting to the use of the fingers of one, and the other hand, presented now with the dorsal and now with the palmar surface toward the point desired to be reached, and inserting, perhaps hurriedly, now the

half hand and now the fingers only, too often harasses the patient, alarms the friends, and embarrasses himself with a series of failures before attaining success.

FORCEPS BLADE DIRECTOR.

To obviate these difficulties, an instrument which may be designated the forceps blade director, is here presented. It is made of iron wire, less than a quarter of an inch in diameter, formed at first into the shape of a hair-pin with the rods parallel. These are cut off at suitable length and are given, edgewise, as regards their plane, a vaginal curve. The ends are then flattened out and gently curved away from the plane of the rods, as retractors. The opposite extremity of the instrument, at a suitable point, is bent away from the plane of the rods, in the same direction as the retracting extremities, to serve as a handle.

The accompanying wood cut will give a good idea of the instrument, and will at once suggest the mode of using it. The first blade resting in place, the retractor, held gently by the handle in the left hand, its rods resting, the one above, the other below the middle finger of the right hand, is inserted into the vagina, and guided so that the points enter the os uteri and are brought to bear upon its right margin. The fingers are then withdrawn, while the instrument is steadied in place by the left hand still grasping the handle (purposely bent away from the median line) in such manner as to retract the os uteri toward the right side and to draw it slightly away from the head. The instrument now serves as a guide to the forceps blade, the rounded point of

which is glided along the "ways" formed by the rods directly into the os, and between it and the right plane of the head. One or the other retracting point of the director now falls within the fenestra of the blade, leaving its rims and the rods of the retractor in different planes, so that the latter are free to be withdrawn without disturbing the position of the former.

The contrivance, it will be seen, is, at once, an os uteri retractor and a forceps blade director. The instrument to which reference has been made, so far, is adapted for use in introducing the second blade only; there is a companion to it, similar, *mutatis mutandis*, for the left side, though occasions for the use of this director will be rare.

HOW TO CONTRIBUTE TO MEDICAL JOURNALS.—If you desire to prepare valuable communications for medical journals, you must observe the following rules:

1. Be positively sure you have something *new* to contribute.
2. Tell it in as few words as possible.
3. Do not plagiarize from text-books.
4. Never report an uncertain case without a verification or falsification of the diagnosis by a post-mortem examination.
5. Do not send the same communication to half a dozen journals. Select one, and send it to no others. If you neglect this rule, your habit will ultimately be found out, and *all* journals will reject your communications.—*Med. and Surg. Reporter*;

DR. WM. S. JANNEY, Coroner of Philadelphia, reports the following death-roll from his department for 1881: A list of 1,915 cases shows that 108 persons died during the year without leaving a single clue to establish their identity. Of this number seven were infants abandoned at birth; 38 of the unknown were men and three were women.—*Med. Bulletin.*

THE *Glasgow Medical Journal* contributes two cases of poisoning following the use of iodoform dressing in carious diseases. One of these had parenchymatous disease of the liver and kidneys.

Foreign Correspondence.

ARTICLE IV.

VIENNA, March 6, 1882.

EDITORS CHICAGO MEDICAL JOURNAL AND EXAMINER: The leading topic of the day in German surgical circles is the place of iodoform in surgery. Six months ago the new antiseptic seemed to have supplanted all others in the treatment of wounds, whether old or recent, septic or aseptic, and to possess many and important advantages, especially over carbolic acid. An enthusiastic advocate, Mikuliez, even laid down the proposition based upon his observation and experience as Billroth's assistant, that "of the entire Listerian dressing nothing now remains except the principle." Such was indeed the case in many of the large surgical clinics, notably that of Billroth, in Vienna, and surgeons who had the remedy simply on trial, almost without exception acknowledged that, while iodoform was, in its antiseptic action, the equal of any other agent, the ease of its application to *all* wounds, the simplicity of its employment, its anæsthetic properties, and its specific influence in transforming a tuberculous, fungous surface into healthy granulations, promised its rapid and universal substitution for all other antiseptic means.

Yet this chorus of praise to the newly enthroned, malodorous goddess of antiseptic surgery was rudely interrupted some months ago by the discordant wailings of sundry of her worshippers, who lamented that while her numerous virtues were unassailable, she had at times a decided homicidal tendency. This slander was at first treated as the hallucination of a madman, but the facts accumulated so rapidly that iodoform degraded

from its high estate, stands to-day a prisoner at the bar of German surgery, to plead for very existence in the surgeon's armament.

Yet the reaction is scarcely surprising when one considers the reckless way in which the agent has been used. Originally introduced by Zeissl and others as an efficient dressing for syphilitic ulcers, it was first used and brought to notice as a universal antiseptic dressing by Mosetio Moorhof in Vienna, about two years ago. In his hands it has produced no evil results, even when poured freely into wounds and cavities to any extent. Adopted and recommended to the surgical congress in Berlin last year by Billroth, and indorsed by Gussenfauer, of Prag, the remedy was soon in the hands of every enterprising surgeon. Under the impression that iodoform was perfectly innocuous, surgeons were long in the habit of applying it without stint, pouring 100, 200, even 400 grammes into a wound, so as to fill up the cavity completely. The result was many cases of severe, even fatal intoxication. Konig, of Gottingen, has recently published in the "Centralblatt für Chirurgie" thirty-two cases of more or less severe poisoning from iodoform dressing, which have been sent to him in answer to a published request for such cases. Of these he considers fifteen as slight degrees, seventeen, severe, six of the latter fatal from direct effect of iodoform. He remarks: "In the great majority of all (32) cases, much more than 10, in a large number 40, 50, 80, even 100 grammes at least were used." Yet in one case, a boy of eighteen, slight delirium, lasting a few hours, followed the application of a single gramme in the cavity of a tuberculous abscess. It is interesting to note that although in this case, the same quantity was subsequently repeatedly applied, no further abnormal symptoms were observed. This and similar cases of unusual susceptibility are explained *pro tempore* by the assumption of an "idiosyncrasy." Several points made by Konig are of great value. The poisonous effect of idoform is indicated by a rapid and feeble pulse, and by psychical disturbance—observations quite in accord with the experimental results of Binz and Högyer, who found paralysis of the heart and narcotic effects to result from exhibition of idoform in dogs and cats. Further, the dangerous forms

of intoxication occur almost exclusively in the *aged*, or in the *young with organic cardiac disease;* eleven of the thirty-two patients were more than sixty years old, and *nine of the thirteen severe* (and fatal) cases were *over fifty years of age;* with children free from cardiac disease, the surgeon has very little to fear. Light degrees of iodoform intoxication are indicated chiefly by hallucinations, usually of transient (a few hours') duration; patients insist upon getting out of bed, and usually imagine themselves threatened by physical injury. The severer forms exhibit abnormal frequency and weakness of pulse, delirium, hallucination; patients refuse nourishment, become melancholy, sometimes violent; death occurs from paralysis of heart and respiration. After use of excessive quantities of iodoform, especially in children, there is sometimes observed the picture of a severe meningocephalitis—stupor, coma, involuntary passage of urine and fæces; the autopsy reveals fatty degeneration of heart, liver and kidneys; within the cranium either nothing abnormal or a chronic meningitis.

The minimum dose which can produce abnormal symptoms is not yet determined; seems to depend entirely upon the "idiosyncracy" of the patient in fact; yet König remarks that, as a rule, the danger increases with the quantity given, and finds scarcely a case of severe symptoms following the use of less than 10 grammes.

In conclusion, while König regards the use of iodoform dressings as justifiable only where antiseptic results can not be obtained by other means (especially Lister's dressing), he insists upon the use of iodoform as indispensable in the treatment of tuberculous joints, and upon mucous membranes—mouth, rectum, vagina, etc.

Billroth, however, has not the same horror of iodoform. Since April, 1881, this substance has constituted the staple dressing for *all* wounds in his immense clinic. He had last year two fatal cases of poisoning—both scrofulous children—in one case 40 grammes of crystals were poured into a large cavity in the hip after evacuation of pus—in the other, 120 grammes were placed in the wound after resection of the head of femur. Thereupon he modified the mode of application so as to reduce to a

minimum the quantity applied. He now employs not crystals, but powder, which is applied to a given surface either by means of a pepper-box, or is dusted on from cotton. If union by first intention is designed, the wound is then closed with carbolized silk sutures; if small, and hence likely to discharge but little, the seam is simply covered with cotton (dusted over with iodoform), over which is laid a water-tight covering—Mackintosh for example—and a simple bandage; if the wound be large and promises profuse suppuration, iodoform gauze is applied in the same way as carbolized gauze after Lister. This iodoform gauze is very simply prepared by pouring the necessary amount of iodoform powder into a basin, and then rubbing thoroughly around in the powder, laundress fashion, a piece of suitable, large meshed cloth. In this way from ten to twenty per cent. of the weight of the bandage is found to consist of iodoform—a bandage which in Billroth's clinic has supplanted Lister's.

In mucous cavities, he uses a gauze prepared with gelatine, and containing thirty to fifty per cent., in order to compensate for the loss consequent on constant movement and irrigation of surfaces. For fistulæ in ano, for the nose, uterine cavity, etc., he makes suppositories of iodoform and gum arabic, with or without glycerine, according to the consistence required. For irrigation of mucous membranes (bladder), and for subcutaneous injections, a suspension of iodoform in glycerine (1 to 10) or in ether (1 to 5) is employed.

The first bandage is usually removed the fourth or fifth day, though sometimes allowed to remain ten, twelve, even fourteen days. Since granulations after long iodoform dressing are apt to be flabby, a stimulating salve or wash (arg. nit. 1 to 100) is usually substituted as soon as the surface is observed to be covered with granulations. Usually, two or three bandages are sufficient to secure this result.

Since iodoform is not soluble in convenient menstrua, Billroth still uses carbolized solutions for disinfection of hands, sponges, instruments, etc. Without entering into details as to results, let me say that the condition of the patient after iodoform dressing is, with rare exceptions, afebrile, painless; the wound is aseptic, secretes but little, and heals as rapidly as by

any other method. Nothing could present the happy results more forcibly than the statistics of Billroth's operations for extirpation of carcinomatous tongues. Between 1871 and 1876 the mortality was thirty-two per cent.; in 1877—1880 (fifty-three cases) with irrigations of pot. permanganate solutions, eighteen per cent.; between April and October, 1881, he performed the operation eighteen times, with the same operative technique as before, but with iodoform dressing; result, 18 *recoveries*.

The course of the recovery presented in no case unfavorable symptoms. Billroth himself ascribes the extraordinary success largely to iodoform. The dressing consisted simply in a piece of iodoform gauze fifteen to twenty c.m. long, containing about one gramme of iodoform, rolled up so as to form a tampon, and pressed into the wound. The tampon was generally renewed in from five to eight days after the operation.

Mosetig is now using iodoform suspended in glycerine as a local injection in the treatment of goitre. It is safe and efficient, he says.

Neumann injects the buboes from a hard chancre with the same liquid; the glands usually become smaller and softer, but the roseola appears invariably in due course. He also gives iodoform in pills, instead of pot. iod. for constitutional syphilis.

W. T. BELFIELD.

ARTICLE V.

HEIDLBERG, FFBRUARY, 1882.

EDITORS MEDICAL JOURNAL AND EXAMINER: — One who spends any considerable time abroad studying medicine or visiting hospitals, and fails to visit Heidelberg, will miss one of the most essential ingredients of his feast. This place has been rich in medical glory so long as to impregnate the air with its sanctity, and you breathe inspiration before you go to the hospital to see what manner of men the professors are. Although the inhabitants are not very numerous—about twenty-five thousand — yet for hospital advantages it is no mean city,

having about four hundred and fifty-three beds for patients, and at present more are knocking for admission than can be accommodated. The larger part of the hospital consists of detached buildings that contain but few beds, and large windows, so that the supply of sunlight and air surpasses any similar buildings I have happened to particularly observe, except the new hospital at Genoa. But I came here particularly to see a former Vienna acquaintance, Prof. Czerny, who, still quite a young man, not over forty, and probably not as old, has made a reputation world-wide for his bold, skillful and successful operations, and every day adds new luster to his fame. Formerly an assistant of Prof. Billroth, of Vienna, ten years ago he went to Fribourg and stayed five years, then came here to succeed the celebrated Simon, and although a comparatively small man, fills the chair full.

The opportunity for studying surgery here is almost unsurpassed, except for injuries, even by the large cities. The number of students is comparatively small, so that each can see and hear all that is said and done, while the operator is not hid by a crowd of assistants, as in Berlin or Vienna. But, to better illustrate, I will give you an epitome of his clinic for a day, which seemed to be only an average one. At each clinic one or more students are called down to examine the patients, give their diagnosis, prognosis and treatment, and defend the same before the class. In this way they become practical surgeons at the beginning of their career, instead of the end of it.

Case I. Æt. forty; strumous diathesis; has hydrocele on left side. Parts shaved, and washed with carbolic lotion. When scrotum was opened and fluid evacuated, the testicle was found somewhat enlarged, and tunica vaginalis much thickened, so the testicle was removed, and found studded with caseous deposits. Vessels were tied with catgut, drainage tube inserted, and parts brought together with sutures. Had it not been determined to remove the testicle, a deep, loose suture would have been taken, and parts allowed to heal from the bottom.

Case II.—A young girl of eleven was presented, who had lost her nose from lupus, and had the defect remedied by a plastic operation, the flap being turned down from the forehead. The

face was covered with eczema, for which ung. zinci oxidi was ordered.

Case III.—A female, æt. about thirty-six, from whom, a few weeks previous, the professor had removed the uterus for malignant disease, and now removed the last silver suture. The professor has operated ten times, with six recoveries and four deaths; always operates through the vagina. Patient was ordered home, and to report in six weeks. The success in this class of operations promises much to the sufferers from this malady, when taken early.

Case IV.—Female, æt. sixty-five, was presented, on whom an operation had been performed for epithelioma of left frontal region, that had extended through the cranium and affected the dura mater. The diseased tissues had been removed, including a portion of the dura mater, and wound covered by a flap from scalp. The wound was now entirely healed, and pulsations of brain could be seen through scalp covering the aperture in the skull. Patient dismissed, to report in a few weeks.

Case V.—Child had been burned over entire anterior part of chest. Skin-grafting had been necessary, for which pieces of skin as large as thumb nail had been taken from an amputated leg, and successfully transplanted. Wound or burn was now nearly healed.

Case VII.—Male, with enlarged lymphatic glands in submaxillary region, which were injected with 50 per cent. solution of iodoform. Several patients similarly affected were undergoing like treatment, but had not been under observation long enough to furnish definite results.

Case VIII.—Female ambulant. Had complained for two years of dysphagia. Had not lost flesh; general health good as usual; menstruation normal; nervous system undisturbed. Could swallow liquids without trouble. Solids would apparently go just below the larynx and return. Sometimes they would be swallowed after several unsuccesful attempts. Swallowing was not accompanied with pain, except the choking. Patient was given some bread to eat, and demonstrated the difficulty several times. Swallowing solids was sometimes facilitated by taking liquids. It might be stricture, but there had been no cause for stricture;

moreover, a bougie passed down the œsophagus proved the absence of stricture. It might be malignant disease, but none could be felt; the bougie or regurgitated food was not tinged with blood; besides, its duration almost excluded the disease. It might be nervous, but no impairment of the nervous system could be observed or elicited, although a longer observation might be necessary to settle that point. It might be a cul de sac into which food deviated, but none could be felt in an abnormal position after swallowing. It might be owing to pressure on the parts by enlargement of thyroid gland. This might even be the case when the gland did not seem to be perceptibly enlarged, as it often pressed in between trachea and œsophagus, and sometimes behind both, and eluded detection. In the present case, the gland was somewhat enlarged on right side, but only to a slight extent; in fact, so little as to hardly attract attention; nevertheless, the lecturer had had one case similar to the present, in which he removed the gland with perfect relief. The patient was ordered iodide of potassium three times a day, and emplastrum mercurial. Should there be no alleviation of symptoms in due time, and nothing else discoverable, the gland would be extirpated; or should a cul de sac be found, it would be remedied by removal.

Case IX.—Young man of seventeen, with cleft palate. Operation for closure was performed under chloroform, with head in dependent position. Edges of cleft were denuded with scissors and knife, and brought together with silver and catgut sutures. Incisions were made on either side of and parallel to the cleft, and tissues loosened from hard palate to relieve tension on sutures. Difficulties of this position are profuse hæmorrhage, which obscures the operation, and œdema of brain, which is liable to occur in adults.

Case X.—Young woman upon whom Battey's operation had been performed three weeks previously, for hystero-epilepsy. Wound had entirely healed, but there was some tenderness in right groin, with elevation of temperature, and abscess feared. Treatment was expectant. Spasmodic manifestations had disappeared since the operation.

This is only a sample, detailed in brief, of the clinical lectures

and operations that last from one and a half to three hours. Students are allowed to perform some of the operations, under the direction of the professor. One of the students did the castration detailed above. Dr. Czerny talks English very well, and welcomes strangers with cordiality. Some of his private patients are taken into the hospital. Patients come from the United States to consult him concerning maladies to which he has given special attention, and for operations in which he has become particularly skilled.

From the surgical clinic those who desire go to the ophthalmic clinic and lecture of Prof. Becker, where abundant material is found, and numberless cases full of scientific instruments, charts, calculations, etc., for determination of refractions, and other intricate and difficult problems connected with the eye. And so I might enumerate various other departments, but enough has been given to illustrate something of what may claim the attention at Heidelberg.

W. H. FITCH, M.D.

ANÆSTHETIC MIXTURES.—The Vienna mixture, with which eight thousand operations have been performed without an accident, consists of ether, three parts; chloroform, one part. Billroth's favorite anæsthetic mixture is chloroform, three parts; ether, one part; alcohol, one part. An English mixture, known as the A. C. E. mixture, consists of alcohol, one part; chloroform, two parts, ether, three parts.

Owing to the different volatility and specific gravity of the different anæsthetic liquids, the vapors have, necessarily, a different composition from that of the mixtures themselves. The value of a mixture must, therefore, in part, be determined empirically. Some experiments have been made in the mixing of heart-stimulants with chloroform. Sanford mixed one pound of chloroform with two drachms and a half of amyl nitrite. Others have added oil of turpentine to the chloroform. The objection so far has been that such mixtures cause a headache.—*Med. Record.*

Domestic Correspondence.

ARTICLE VI.

LOS ANGELOS, CAL., March 1st, 1882.

The climate of Southern California is delightful; everybody who comes here is pleased with it. This alone is sufficient to account for much of the benefit which invalids here experience—and the invalids who come here for health nearly all improve, except those who are in an advanced stage of pulmonary consumption when they arrive. The climate is semi-tropical; there is no winter—as we in Chicago understand it—and there is no tropical summer; the summers are no hotter than they are on Lake Michigan. The year 1880 was an exceptional one, with numbers of severe frosts and of fogs. I inclose the meteorological report of that year for this place—made by the Government observer.

The frosts referred to were simple hoar-frost, which killed the flowers and tender leaves. This winter there have been several such frosts, but all so slight that the calla-lilies, the roses and heliotropes do not show perceptible damage. The fogs generally occur in the early morning and are gone soon after sunrise. Riding, early in February, over a plain near here, where the grass was just springing up and the air was balmy and warm, one of our party instinctively remarked: "What a cold and desolate spot this must be in Winter!"

With so slight a rain-fall there is a dearth of vegetation on the hills and valleys except where irrigation is practiced. The unirrigated land is used for sheep grazing mostly. In the very dry seasons many sheep are lost by starvation—we have seen some dozens of such in our drives hereabout. Water the soil and it will produce almost anything. The valleys are being rapidly

LOS ANGELOS METEOROLOGICAL SUMMARY 1880—MONTHLY AND ANNUAL MEANS.

DATE.	Barometer	Highest Barometer	Lowest Barometer	Range Barometer	Mean Therm.	Highest Therm.	Lowest Therm.	Range of Temp.	Relative Humidity per cent.	Prevailing Wind Direction.	Total No. Miles.	Maximum Wind Velocity.	Amount Rainfall	No. Days Rainfall
January	30.065	30.304	29.692	0.612	50.5	76.0	30.0	46.0	65.0	N.	3214	21	1.33	5
February	30.149	30.387	29.876	0.511	49.1	70.5	33.5	37.0	67.0	NE.	3700	26	1.56	8
March	30.068	30.312	29.872	0.440	50.5	73.5	36.0	37.5	72.6	NE.	3622	17	1.45	6
April	30.076	30 219	29.936	0.283	55.2	83.0	40.0	43.0	77.4	SW.	4073	23	5.06	13
May	29.951	30.160	29.782	0.378	61.3	97.0	42.0	55.0	72.0	SW.	3508	19	.04	1
June	29.914	30.014	29.800	0.214	62.9	83.0	50.0	33.0	72.4	SW.	3185	14	.00	0
July.	29.961	30.071	29.859	0.212	63.5	85.0	52.0	33.0	73.4	SW.	3377	22	.00	0
August	29.871	30.072	29.681	0.391	66.1	87.0	52.0	35.0	71.9	SW.	3178	19	.00	0
September	29.929	30.059	29.794	0.265	63.7	91.0	44.0	47.0	71.3	SW.	2694	14	.00	0
October	29.997	30.152	29.850	0.302	61.6	89.0	44.0	45.0	62.5	SW.	2423	16	.14	2
November	30.067	30.314	29.756	0.558	54.8	85.0	35.0	50.0	55.1	NE.	1918	17	.67	3
December	30.040	30.269	29.647	0.622	55.0	80.0	38.0	42.0	71.6	NE.	2403	22	8.40	13
Sums	360.088	362.333	357.545	4.788	704.2	1000.0	496.5	503.5	832.2		37,295	230	18.65	51
Means	30 007	30.195	29.795	0.400	58.7	83.3	41.4	41.9	69.3	SW.		19.2		

GENERAL REMARKS.

January—Damaging frosts end of month, range of temperature above normal.
February—Frosts, not damaging. Maximum temperature, 9.5; lower than normal.
March—Frosts 5th, 15th and 16th. No damage. Weather unusually disagreeable for corresponding month.
April—Frost, 19th, no injury. Maximum temperature on 9th above normal.
May—Frequent fogs during month; temperature above normal.
June—Weather hazy and foggy; temperature below normal.
July—Dense wet fogs; maximum thermometer, 23d, and minimum thermometer, 22d of month.
August—Season backward; maximum thermometer, 5th; minimum thermometer, 6th'
September—Frequent fogs; maximum thermometer, 5th; minimum thermometer 23d and 29th.
October—Weather warm and pleasant; maximum thermometer, 16th; minimum thermometer, 11th.
November—First frost, 13th; no damage; maximum thermometer, 4th; minimum thermometer, 13th and 16th.
December—Frost, 1st; rains of great benefit; maximum thermometer, 11th; minmum thermometer, 1st.

improved, and irrigating ditches or zanzas—pronounced *sanka*—are being extended in every direction. It is very dusty here in the summer of course, but we have seen very little of it. The streets of this city are sprinkled the year round. The scenery is beautiful; the grandest sight is the snow-covered Sierras viewed over the tropical vegetation—in the foreground—of flowers, orange trees loaded with yellow fruit so heavily that the limbs must often be supported to prevent their breaking; magnolia, lemon, lime, cyprus, pepper and eucalyptus trees, all clothed in in the richest of green leaves. The population of the towns in Southern California, aside from the original Mexican inhabitants of the older towns, is made up largely of people who have migrated here in search of health. Those who have improved, which are a majority, are so fulsome in their laudation of the climate and its benefits to the sick that you need to allow liberally for their enthusiasm.

This climate is a good one for invalids—probably not for all classes of invalids, and certainly not for those far advanced in phthisis. But for incipient phthisis, bronchitis, general debility, neurasthenia, neuralgia, dyspepsia and catarrh, it must be that a change from a northern climate to this is very beneficial. It is impossible that so much and so uniform testimony from so many people who have proved it experimentally can be unreliable.

Nor does one care much, in the face of such testimony, for theories about the climate based on a study of the meteorological tables unless the theories are favorable; one feels like saying, if the theories make out the climate a bad one, "so much the worse for the theories."

But in coming here for health one should exercise some wisdom in several directions. If he is very ill he should not come alone; some friend should come with him to find a boarding place and take care of him for a time at least. Then, he should be sure that, wherever he goes to live, or stay for one day even, he has a fire in his room whenever he feels cold. The air becomes chilly late every afternoon, especially in winter, and a Northern man needs his overcoat if out of doors, and a fire if indoors, as night approaches. The old residents have become so used to the climate that they don't think of having a fire unless the temperature falls to near

freezing point. They will build a house of a dozen rooms and provide for a fire in just two—in all the rest you cannot find a fireplace, a stovepipe hole or even a chimney. Phthisical patients who have passed beyond the early stage of the disease should not come here to stay. This is the largest city in Southern California, and offers perhaps better advantages for the entertainment of health seekers than any other, but there are eight or ten other towns in this quarter where one may make himself comfortable if he only has money. The best way to do is to make this headquarters and visit other regions as one's inclination prompts. The best way to reach here, except in the summer months, is by the new Southern Pacific and Santa Fe route; in summer the Union and Central Pacific Railways are the best.

The mortality in Los Angelos is relatively high—for the month of February ult. it represented an annual death rate of 26 per 1000. The proportion of deaths from phthisis is large and swells the list materially, but most of the cases are in people who have been here less than a year, thus testifying to the fact that many come here with that disease to die. Malarial fevers occur and add to the mortality list, also typhoid fever, which has been rather prevalent of late.

New Mexico and Arizona offer doubtless a more ideal climate for consumptives, especially in the advanced stages, than this region. The trouble is that in the territories referred to there are few places where invalids enjoy living which offer any real attractions for that class of sick people who are able to travel for health. Los Vegas, N. M., has some hot springs that are highly recommended, but very few attractions beside.

We spent a day at Santa Fe, and were very much entertained with the mud houses, the donkeys and the old churches, something less than six centuries old; also with the pleasant scenery in the distance, but one can *do* the town in a few hours, and it is no wonder invalids tire of the place for want of pleasant surroundings and diversion. The time will come probably when many more attractions will call visitors to this old town and beguile them to remain more than a brief day.

Sick people who are sent away from home to get well, or drag out a longer existence in their invalidism than they could at home,

must go where they can find some enjoyment if they are to receive the greatest benefit, or much benefit. No health resort will attain much popularity till it becomes enjoyable. Here is one that is in a very high degree enjoyable.

In nearly every public hospital in California—if not every one—and in many private hospitals, the physicians and surgeons receive pay for their services. In the Hospital of the "City and County of San Francisco" each attending physician and surgeon receives $1,200 annually for his services. In the German Hospital each one receives $900. The resident physician at the County Hospital receives $1,500, while at the German Hospital this officer draws but $1,200, but in each case he is debarred from engaging in any private practice. In the French Hospital, with 160 beds, there is one attending physician, who is on duty throughout the year. He is supposed to visit the institution at least once each day, and his pay is $1500.

In nearly or quite all the county hospitals throughout the State a salary attends the office of physician. The amount varies, outside of San Francisco, from $300 to $1,000, the latter figure being the pay in the county of Los Angelos. Some of the county hospitals are at the same time almshouses, the county caring for its poor, sick and well, under the same roof; but in some cases the attending physician receives additional compensation as superintendent of the poor-house part of the establishment.

The "County and City Hospital" is under the management of the Board of Health of San Francisco, appointed by the Governor of the State. They appoint all the officers, medical officers included. The Board of Supervisors hold the purse and vote the appropriations, but have no further voice in the management. The attending physicians and surgeons are chosen from the faculties of the two medical colleges—the colleges being equally represented; the representatives of each college have exclusive control of an equal number of wards, and two internes are chosen annually from the graduates of each college, to serve one year. A superintendent physician, who lives and practices outside, and who gives only an hour or two to the hospital daily, has charge of the institution; the house physician lives in the building and gives his whole time to his duties.

There is a small amphitheater for clinics and here the students of the two colleges receive their hospital instruction. One college, the younger, the "Medical College of the Pacific," is three miles away from the Hospital; the older, the "Medical Department" of the State University (the old Toland School), is nearly four miles away.

The County Hospital is well managed. It is kept clean and in fair repair by the labors of the patients alone. No histories or notes of cases are kept on tablets hung over the beds, but only the name, age, residence, diagnosis, etc., of each patient. The histories are kept in books for the purpose.

Liquor is issued to patients only on the written order of the house physician and the order must be approved in writing by the attending physician within twenty-four hours.

There are several private hospitals in San Francisco I was unable to visit. I regretted this very much, and in particular that time did not permit a visit to one on Falsom street which supports a sign: "*Private Female Lying-In Hospital.*" There is nothing, as Dr. J. S. Billings would say, like giving an *article* a proper title. N. B.

ARTICLE VII.

NEW YORK CITY, March 16, 1882.

EDITORS OF CHICAGO MEDICAL JOURNAL AND EXAMINER: We are still talking about the new code and the prospective new medical laws. The general opinion concerning the former is that it is a mongrel affair and no great improvement on the old one. It includes homœopaths, but excludes mineral waters. It pretends to be liberal, but inserts the ridiculous prohibition of "interviewing." The fact is that the day of ethical codes is past, and it might just as well have been recognized at the meeting of the State Society. Indeed, Dr. Morse's resolution to abolish the whole came very near passing, and it will doubtless be adopted in a year or two.

Medicine is theoretically a learned profession, but practically it is ruled by much the same laws and instincts as trade. We

work for a recompense nowadays—not for an honorarium. It may be unfortunate, but it is true. And why should the doctor need to have his actions regulated by a written code, and not the lawyer or the grocer? We want a short code which will teach young physicians medical etiquette, not medical words.

The journalistic threats that the New York State medical delegation to the American Medical Association will not be received, are preposterous. The delegates represent the foremost medical men in the city. The American Association would receive more injury than it could gain by excluding them. If it did so, it would indeed only make itself ridiculous.

The charge that the movers and formers of the new code wanted homœopathic consultation practice is a silly one. It does not seem to be remembered that our County Medical Society long ago permitted consultation with all regularly-qualified practitioners who did not practice according to a dogma. There are very few dogmatic homeœopaths now. Consultation with the quasi-eclectics has not been an uncommon thing. But furthermore, the homœopaths have got along without us so long that they can still do very well alone.

There is quite an active movement in favor of a law taking the licensing power away from the colleges and giving it to a State Examining Board. The graduation of some six hundred new doctors in the next few weeks emphasizes the interest aroused at the meeting of the State Society concerning this matter. The subject even receives attention from the daily press, which announce that there is now one doctor to every five hundred inhabitants in this country, and that each doctor can therefore average only two or three patients per week. The medical colleges do not openly oppose such a law. Indeed, with the universal sentiment demanding that something be done to protect the profession, they would hardly dare to do so.

The small-pox scare has nearly subsided, although the disease is still present. Very nearly everybody has been vaccinated. The demand for virus from one large drug establishment was one thousand points per week. The amount of free vaccination done at the dispensaries, and elsewhere, has been very great, averaging over a thousand cases a day. I have heard of no fatal re-

sults from the bovine virus, though it makes a very sore arm. From what I am told, there is a vast deal of ignorance among the profession on this same subject of vaccination. And there are said to be a great number of non-protective vaccinations. I believe in the anti-vaccination societies most heartily. They are doing a good work—that of forcing the profession to inquire into what vaccination really does. It was not until last January that any records began to be kept at the city small-pox hospital. These records now show that a large majority of the patients received had been vaccinated. And this is what other statistics reveal. The fault, however, is not in the vaccine disease, but in the vaccine virus and the doctor who uses it. In my own experience I have found that one kind of virus supplied by a reputable firm produced no effects, while another kind upon the same persons was active. Many other physicians have told the same story. Yet thousands of quills of this virus have been used here and elsewhere every week.

It is rather the fashion here, in deference to the wish of the patient to get his money's worth, to scrape or scratch deeply so as to make the blood very apparent. This is done considerably in the dispensaries, since the deep method is quicker. My friend, Dr. Derby, who is one of the few experts on vaccination in the city, tells me that it is this deep scarification which is largely the cause of the bad arms, with erysipelas, sloughs, etc., and that the vaccine protection is lessened or spoiled by having these severe inflammations take place. The patient believes the worse the arm the surer the protection, and so does the doctor very often.

At one of our dispensaries here there is a female laryngologist and oculist, Dr. Rosa Welt. She has studied in Germany, and is said to be very accomplished. She is, I believe, the only lady specialist we have in this line, and we hope to be proud of her. The alternate to the same class is Dr. Baruch, who showed me the other day some interesting results of the treatment by insufflation of starch and nitrate of silver powders (B. gr. ii—gr x. to ℥i).

Dr. Baruch is of the opinion that the proper application of powders will, in very many cases, do quite as much for the

throat and nose as the most elaborate and powerful spray apparatus. Certainly we should all hope so, for the general practitioner can afford insufflators, and with a little experience can use them as well as a specialist. And he need not send away his cases if all the treatment given by these specialists is based on the simple principles of first cleansing the mucous membrane and then applying astringents.

At the Bellevue outdoor department, Dr. Katzenbach, who is a skillful therapeutist, has told me of a large number of cases in which he gets particularly good results from combining muriate of ammonia with the muriatic tincture of iron. The suggestion is from some English physician whose name I do not recall. It certainly seems to add much to the efficacy of the iron. Indeed, about the only cases in which I have seen unquestionable and direct benefit from this drug have been when the ammonium was given with it. Iron is a good deal like true religion in most cases—it must be taken with a little water and a good deal of faith.

Dr. Wooster Beech, of this city, has invented a very ingenious instrument for removing the spinal cord through the foramen magnum without opening the spinal canal at all. It consists of a long, flat, pliable strip of brass or steel, to which are attached at regular intervals steel rings just large enough to slip over the greatest expansion of the cord. The lower ring has a very sharp, inferior edge. All of the rings are split transversely so that their size can be changed. The brain and medulla are removed, and the instrument slipped down over the cord, cutting the nerves as it goes. When the end is reached, the cord is cut off by a fine wire loop connected with the first ring and running up along the flat slip. If the instrument works as it promises, a great deal of trouble and disfiguration can be saved, and spinal cords will be taken out oftener than they are at present.

The Columbia Veterinary College, and "School of Comparative Medicine," as its authorities like to add, is a rather curious place. I visited it with Dr. Beech, the other day, in order to try his new instrument. We were shown around the establishment. There was a menagerie of dead animals in the dissecting-room. On one table were the remains of a horse; on another the car-

cass of a camel; near by was the muscular preparation of an antelope, which was being prepared in hope of getting the college anatomical prize. Some horses' legs, the muscular dissection of a dog, and a dead boa constrictor some fifteen feet long were disposed about the place. Several rabbits with the supposed virus of anthrax in them were hopping around in the room above—very robust and not too chaste. The case of the camel was the most interesting one. I examined his stomachs, of which he has five, and the curious "water-bags" in the first and second division, wherein he is supposed to bottle up liquid supplies. The cause of his death was a perinephritis, ending in absolute gangrene of the outer parts of the kidney. Up-stairs, in Dr. Satterthwaite's laboratory, we were shown some beautiful specimen's of the "pearl disease," or bovine tuberculosis." The tubercles, which Virchow considers sarcomatous rather than tuberculous, are in the shape of round, hard, white bodies attached to the pleura and other parts by a pedicle. There were also speciments of contagious pleuro-pneumonia, and of anthrax, the latter appearing in the form of deep, ugly-looking ulcers on the mucous membrane of the stomach. Dr. Satterthwaite, in connection with Drs. Porter and Dana, have lately made some experiments with the inoculation and cultivation of anthrax.

The medical and spiritual charities of the city are just now in a flutter over some very numerous and generous bequests from the late Miss Sarah Burr. This lady died on the 1st inst., worth about $3,000,000, and having very few relatives with whom to leave the money, she accordingly divided up most of it, and there is scarcely a charity in the city which does not receive a portion.

First of all she gives $200,000 to establish a new dispensary, to be called the Good Samaritan Dispensary. Then $30,000 is given to St. Luke's and the same sum to the Woman's Hospital; also the Home for Incurables, the German Hospital, Mt. Sinai Hospital, Home for Consumptives, Society for Relief of the Ruptured and Crippled, get $10,000 each. The Northeastern Dispensary gets over $15,000, and most of the other dispensaries get $5,000. The Training School for Nurses gets $10,000. Altogether, nearly half a million is given to various medical

charitable institutions. It is rather curious to find that $10,000 is given to the Jewish Hospital here, and $10,000 more to the Society for the Conversion of the Jews.

Two new medical journals have appeared since I last wrote. One is the *Quarterly Illustrated Journal of Medicine and Surgery*. It is edited by Dr. G. H. Fox, and occupies a peculiar field. The first number contains several colored lithographs of plastic operations performed by Dr. Post. It is in large quarto form, and it can therefore present a certain class of subjects better than is possible in ordinary journals. Dr. McBride's *American Journal of Neurology and Psychiatry* is happily named, and has some especially good features. Its editorial notes and comments are excellent, and it aims to supply the neurological needs of the general practitioner.

The latest literary gossip is, I believe, about the *Journal of Obstetrics*. Its editor, Dr. Mundé, is not so popular among gynæcologists as he might be. Consequently, the Obstetrical Society voted to give its reports to the *New York Medical Journal*, and thus the "foremost obstetrical journal of the country" is left out in the cold. How much injustice is done I cannot say, but it is not likely that the general practitioner will suffer much from the internecine strife. It is said that the house of Lea & Co. is to publish a "Gynæcological Encyclpædia" which will tell everything that there is to be told regarding diseases of women. Everyone is entitled to his hobbies, and one of mine is that gynæcology is demoralizing the women of our cities. No doubt much physical good is done, but women are brought to that stage when they think no more of having a physician look at the cervix than at their tonsils, while in many cases a morbid craving for local treatment, tampons and pessaries, is generated. That women believe in the efficacy of the speculum may be inferred from an anecdote told of one of our eminent physicians. He examined a lady patient with one of these instruments one day. The exploration ended, he was about to withdraw the speculum. "Excuse me, doctor," said the patient, "but for a long time I have been feeling pains in my stomach. While you are about it, won't you see what is the matter there?"

At the Academy of Medicine this month, Dr. Castle read a

practical paper on the treatment of some of the ordinary diseases of women. He recommended very highly the use of Fowler's solution for some of the difficulties, usually thought to be digestive, that occur among women at or near the time of the menopause. He referred to the effect of the overdistension of the abdomen with flatus as a cause of prolapse. This idea he claimed as original. He also made a useful suggestion in regard to giving the vaginal douches. The simplest way was to have the patient in a sitz-bath. At a previous meeting of the Academy in February Mr. Wright read a paper on plumbing and allied topics. It was not, I am told by experts, a very accurate or novel contribution, but it seemed to interest the audience, who probably were as ignorant as most doctors are everwhere about plumbing. The discussion brought out, at a subsequent meeting, a paper from Dr. Frank H. Hamilton on "The Struggle for Life Against Civilization and Æstheticism." The tenor of thought is indicated by the title. The paper was rather a novel one for a medical society. It was a thoughtful one, however, and was well discussed.

The subject of Guiteau's insanity was debated at a meeting of the Medico-Legal Society this month. It was introduced by a paper from Dr. Hammond, which is already in print. The discussion was all one way as regards the question of sanity or insanity, but was rather inharmonious otherwise. Some thought that Guiteau was born insane; some that he became insane when at Ann Arbor. Most seemed to think him a moral idiot, but others thought him a religious monomaniac and with a very fair amount of moral sensibility. Hammond thought he should be hung. Beard intimates that if we hang him we make fifty millions of Guiteaus. The general opinion seemed to be against Hammond's view that some insane are responsible, or at least punishable. It would not be easy to get a clear idea of what our New York experts think of Guiteau's mental condition from the discussion at this society, which, by the way, includes but few, if any, of those connected with the asylums of the city. The view taken by most was that Guiteau was congenitally devoid of moral sense. With this moral vacuity were some intellectual peculiarities characteristic of monomania. It would not be claimed, I

presume, that persons with no moral sense are necessarily insane, since our prisons are full of such, and they are not so rare in the ordinary walks of life. Besides, it would be hard to show that Guiteau was without moral sensibilities. It must be the existence of some intellectual vagaries that would make him out insane. The "parallel" historical cases cited in the discussion were parallel or not according to the listoner's standpoint, and were of no logical or argumentative value. The best collection of evidence as to Guiteau's insanity is, it seems to me, in Dr. Beard's article on the subject in the January number of the *Journal of Nervous and Mental Disease.*

At a subsequent meeting of the Medico-Legal Society the paper by Dr. Johnson, of Brooklyn, on anæsthetics, was discussed. There was little said which did not confirm the several conclusions reached by Dr. Johnson, and which are so important that I append them:

1. Anæsthetics do stimulate the sexual functions; the anogenital region being the last to give up its sensitiveness. Charges made by females under the influence of an anæsthetic should be received as the testimony of an insane person is. It cannot be rejected, but the *corpus delicti aliunde* rule should be insisted on. Dentists or surgeons who do not protect themselves by having a third person present do not merit much sympathy.

2. Deaths from administration of chloroform after a felonious assault, unless the wounding were an unmistakably fatal one, reduces the crime of the prisoner from murder to a felonious assault.

3. The surgeon has no right to use chloroform to detect crime, against the will of the prisoner. But the army surgeon has the right to use chloroform to detect malingerers.

4. The medical expert, notwithstanding he is sent by order of court, has no right to administer an anæsthetic against the wish of the plaintiff in a personal damage suit, to detect fraud.

5. Gross violations of the well-known rules of administering anæsthetics, life being lost thereby, will subject the violator to a trial on the charge of manslaughter.

6. A surgeon allowing an untrained medical student to administer anæsthetics, life being thereby lost, will subject the surgeon

himself to a suit for damages. What he does through his agent he does himself.

7. The physician who administers an anæsthetic should attend to that part of the business and nothing else. He should have examined the heart and lungs beforehand. He should have the patient in the reclining position, with his clothes loose, so as not to interfere with respiration; should have his rat-tooth forceps, nitrite of amyl and ammonia, and know their uses, and when to use them and how to perform artificial respiration.

8. In operations on the ano-genital region and the evulsion of the toe-nail, complete loss of sensation in these parts should never be allowed, and no operation on these parts at all should be had under an anæsthetic, unless by the approval of a full consultation who have a knowledge of the dangers.

9. Chloroform cannot be administered by a person who is not an expert to a person who is asleep without awaking him. Experts themselves, with the utmost care, fail more often than they succeed in chloroforming adults in their sleep.

Dr. W. J. Morton gave some statistics showing the comparative danger of chloroform. He thought that its use should be forbidden by law. Dr. Gordon related some experiments in which attempts to chloroform sleeping persons were made unsuccessfully.

NEW YORK CITY, March 16, 1882.

ARTICLE VIII.

LINDEN, WIS., March 22, 1882.

PUERPERAL ECLAMPSIA FORCEPS DELIVERY AND VENESECTION.

Mrs. S., a young English woman, aged 18, and a very plethoric primipara, was seized without any previous symptoms, at seven P. M., January 16, 1882, with a severe convulsion, which, according to the opinion of her medical attendant, lasted some minutes. I was sent for immediately, and arrived at the house in about twenty minutes after the first spasm. Upon my arrival I found her in one of the most severe convulsions possible. Her respi-

ration had so far ceased that her face was nearly black. Her tongue was badly lacerated, and protruding through oozing froth and blood. Radial pulse scarcely perceptible.

I caused her to be placed on a bed at once and opened the median basilic vein, taking about six ounces of very dark blood. As soon as this amount of blood had been taken the convulsions began to diminish, although the respiration was slow and labored. I then administered chloroform, after which I made examination per vaginam and found the os fully dilated with the head engaged and child living. I think I never saw a case where the fundus of the uterus was so hard and contractions so constant. I placed the patient upon the edge of the bed with knees flexed, and applied my Miller forceps at once. After which forceps being tied and locked, patient was placed in her old position and covered. Finding some little cessation of the uterine contractions about this time, I waited until the next contraction, when I made traction, and in less than twenty minutes from the time I entered the house I delivered her of a living girl baby weighing eleven pounds. Shortly after the placenta presented and was expelled almost entirely by uterine contractions, but immediately upon the delivery of placenta another severe convulsion came on. I will add here that there was very little uterine hæmorrhage. I then administered chloroform and sent for Dr. Eastman, of Mineral Point, seven miles away. Meantime I kept her under the influence of chloroform, more or less. I introduced the catheter and drew off about four ounces of urine, which I tested, and found it to contain a large per cent. of albumen. Later tests showed a specific gravity of 1007. Dr. Eastman arrived about 10 p. m. We at once discontinued the use of the chloroform. Shortly after she had another convulsion, lasting three minutes. Upon consultattion we decided to take more blood, and did so before the convulsion ceased. The spasm seemed to subside at once when blood was taken. The amount of blood taken at that time was about thirty ounces, after which I administered as follows:

℞ Chloral hydrate..... ℥j.
Aqua..... ℥j.

M. and S. One teaspoonful every hour in a tablespoonful of water.

No convulsive efforts of any importance were afterward seen.

Acting upon the supposition that the eclampsia was caused by chemical changes in the blood, we took away largely of the same, and after that diluted it as freely as the stomach could take it with copious draughts of water. The patient made a rapid and good recovery, and at present is quite well and has a healthy child.

Summing up, then, I would venture the opinion that my patient was suffering from the toxic effects of whatever poison is generated by the non-action of the kidneys. The elements of success consisted, 1st, in the immediate delivery of the child, thus lessening the pressure on the kidneys. 2d. Diminishing the amount of blood, thus lessening the quantity of the poison in the system. 3d. Diluting the remaining blood with water, thus rendering it less potent in its effects on the nerve centers.

FEMALE DOCTORS IN RUSSIA.—The number of female candidates for entering upon the study of medicine in Russia is increasing. The normal number of admissions is fixed at seventy, but the actual number of applicants now amounts to more than double that number. The total number of female students who have been admitted within ten years was 959, and of these 281 appear to have terminated their studies and been admitted to the practice of medicine.—*Med. and Surg. Reporter.*

THE DANGERS OF NERVE STRETCHING.—Five fatal cases of nerve-stretching for locomotor ataxia are reported; one by Socin; one by Langenbeck (who originated the operation); one by Billroth and Weiss; one by Berger, and one by Benedict. In these cases it appeared as if there had been some violence done to the spinal cord and medulla, *e. g.*, vomiting, singultus, paralysis of bladder, etc. Dr. Althaus considers it an unsafe measure when there are cardiac or respiratory diseases.—*Med. Record.*

Society Reports.

ARTICLE IX.

CHICAGO MEDICAL SOCIETY.

Stated meeting, March 20, 1882, President E. Ingals in the Chair.

Dr. James G. Kiernan read a paper on

SIMULATION OF INSANITY BY THE INSANE,

And reported many cases, some of which had acquired some celbrity, and clearly proved that such simulation did not necessarily imply a sound mind, even though the insane feigned for some rational motive.

THE CASE OF GUITEAU.

As the Doctor had been employed as an expert by the defense in the Guiteau trial, he was asked if there had been any simulation of insanity in that case. He said there was not. Guiteau had based his plea on *his inspiration* and made a rational defense, so that in a strict sense he was not feigning insanity. However, as to the soundness of mind of the prisoner, Dr. Kiernan said that he thought his was a very common case of a form of insanity, monomania, which in his case depended on a congenital malformation of the brain. In a strict sense he had no strongly-marked delusion, but that was a matter of slow growth in such cases. However, the Doctor had not the least doubt that Guiteau shot the President while laboring under a delusion.

While in the Oneida Community the prisoner had claimed many inspirations. Here, in Chicago, he had once made such a claim when defending a client guilty of larceny, addressing the court on the second coming of Christ, and his inspiration; and had to be called to order for contempt of the court.

Many physical peculiarities characterized Guiteau's insanity. His whole skull and face were very asymmetrical. Although a perfect symmetry was rare, ordinary departures were very slight. In Guiteau there was a marked deficiency in the posterior region; a marked difference between the two sides of the face, extending to the pupil; and if he had been brought before physicians at an asylum two years previous he had surely been committed.

There came the question whether in the family itself there had been insanity. One uncle died of insanity, another of softening of the brain. His father was pronounced insane by two physicians. A first cousin was insane. One brother and one sister were epileptics. Another relation suffered from exophthalmic goitre. A pamphlet published by the assassin in 1866 resembled very much the ordinary writing of the insane.

Dr. Kiernan subsequently discussed the manner in which experts are called by the defense as well as by the prosecuting party, and thought that the present mode in this country was as good as any other, though susceptible of a good deal of improvement.

Dr. E. Ingals had often advised attorneys not to rely too much on the testimony of experts, and he asked the lecturer whether insanity was a disgrace to the race? Dr. Kiernan did not undertake to answer the question. H. D. V.

NOTES FROM FOREIGN SOCIETIES.

PHARYNGEAL TUBERCULOSIS.—Dr. Millard presented to the Société Médicale des Hopitaux, in December last, anatomical specimens from a young man who recently died of miliary tuberculosis at the age of 17. Patient died of starvation after a month's agony; the sufferings caused by the ingestion of food were such that natural deglutition and the introduction of Fancher's syphon had been impossible. Dr. Millard vainly tried to feed the patient through a flexible sound passed through the nostril. Patient died without any perceptible sound in chest other than a weakening of the respiratory murmur.

At the autopsy there were deep lesions in the velum palati, the pharynx and the epiglottis. The tongue and larynx were sound. The intestines were covered with tubercular granulations and ulcerations. The lungs contained recent tubercular lesions which accounted for the absence of pulmonary râles during life. There were some miliary tubercles in the kidneys, but none in the genital organs. This was a striking type of generalized miliary tuberculosis, having terminated in pharyngeal tuberculosis.—*La France Médicale.*

DILATATION AND SUPPURATION OF THE FALLOPIAN TUBES.—At a meeting of the Pathological Society of London, December 6, 1881, Mr. Lawson Tait related some cases of the conditions termed hydro-and pyo-salpinx. In the first case related there had been dysmenorrhœa for three years. On each side of the uterus was a hard tender mass. Abdominal section was performed, and the ovaries and appendages, which were inflamed and glued together, were removed. In the second case also there was intense dysmenorrhœa. The ovaries were enlarged, and the uterus was large and tender; the ovaries and Fallopian tubes were removed by abdominal section, and the patient made a good recovery. The third specimen was removed from a woman who for five years had been constantly ill; the ovaries and appendages were removed, and the patient made a speedy recovery. The fourth specimen was one met with in the course of an ovariotomy for cystoma. The nature of the cyst was obscure, but it seemed a dilated Fallopian tube. The fifth specimen was taken from a woman who had had an attack of pelvic inflammation, and for years afterwards suffered from dysmenorrhœa. A good recovery followed removal of the ovaries and appendages by abdominal section. The sixth specimen was from a young woman with dysmenorrhœa and menorrhagia. Removalof the ovaries was at first declined, but in August last the distended ovaries and appendages were removed. This patient also recovered rapidly and well. Another patient had suffered for many months from constant pain, aggravated at the menstrual period. In October last the ovaries and appendages were removed. The Fallopian tubes both contained a large quantity of pus. A good recovery ensued. In another case

there was a clear history of pelvic peritonitis, followed by dysmenorrhœa. The distended Fallopian tubes and the ovaries were removed, and the patient made a good recovery. In another case there was a history of acute pelvic peritonitis, and subsequently dysmenorrhœa and menorrhagia became prominent symptoms. The Fallopian tubes, which were distended with purulent fluid, and the ovaries, which were large and soft, were removed. She also made a good recovery. Summing up the result of his experience, Mr. Tait said that a history pointing to an attack of pelvic suppuration, with the subsequent development of dysmenorrhœa, and frequently of menorrhagia, and of pain on intercourse was generally to be obtained in these cases. By physical examination, sausage-shaped tumors could be discovered behind or on each side of the uterus. The enlarged tubes were generally firmly attached to the uterus, and their removal was often a matter of considerable difficulty, so that the operations were often very tedious. He had now performed the operation twenty-two times, and all his patients had recovered from the operation, and had subsequently been free from any symptoms. He thought that all the cases owed their origin to pelvic peritonitis, with adhesion of the Fallopian tube to the ovary, and its consequent occlusion. In one other case, which was not operated on, death was due to rupture of the right Fallopian tube into the peritoneum; this set up severe peritonitis. The operation was followed by cessation of menstruation and by sterility.—*British Medical Journal.*

NUMBER OF PHYSICIANS.—According to calculations made by the Medical Academy of Paris, there are at present 189,000 doctors scattered over the world. Of these there are 65,000 in the United States; 26,000 in France; 32,000 in Germany and Austria; 35,000 in Great Britain and its colonies; 11,000 in Italy, and 5,000 in Spain. Putting aside pamphlets and memoirs innumerable, it is estimated that 120,000 works have been published on medical subjects. Of the writers, 2,800 are American; 2,600 French; 2,300 German and Austrian, and 2,100 English. —*Cincinnati Lancet and Clinic.*

Original Translations.

ARTICLE X.

WASHING OF THE STOMACH.—REMARKABLE EFFECTS OF THE INTERNAL USE OF CARBOLIC ACID IN THE TREATMENT OF FEVERS. Translated for the CHICAGO MEDICAL JOURNAL AND EXAMINER. By AUSTIN C. RAMSBY, Chicago.

Washing of the Stomach.—With the perfection and simplicity of the instrumental outfit, the washing of the stomach is going to take an important part in the practice of medicine. It constitutes a precious resource against affections of the stomach, and all the physicians who have tried it unanimously report happy results.

The instruments for that operation are all well known. The pump of Kusslmaul, the Dujardin-Beaumetz instrument, the Siphon-tube of Fancher, have all been presented to the readers of the *Revue Médicale*. Dr. Fancher's instrument seems to be the best, for two reasons: 1st. The facility of its introduction, which even the patient can do himself after a few operations. 2d. Because most everywhere it can be improvised—for a piece of rubber tubing of 1.50 long and 10 to 12 millimeters in diameter can almost always be had, and every household has a common funnel which can be used. Before speaking of the theraputical indications for the washing of the stomach, we will describe the operation:

The patient should be sitting, the head looking directly forward, at almost a right angle with the vertical column. Some physicians prefer reversing the head backward, in order to introduce the sound vertically.

For pusillanimous patients the dorsal decubitus might offer certain advantages. In the first operation, to establish the habit and overcome the spasms of the pharynx, the use of the rigid sound is preferable; the common œsophagial sound answers the purpose well. But when, after repeating the operation a few times the patient knows how to introduce the rigid sound without pushing it, but by the simple action of deglutition, then the common red rubber tube must be substituted for the sound. The tube must be well oiled. The tube for females ought to be of smaller caliber than for males. A mark on the tube at 45 to 50 centimeters from its free extremity will indicate, when touching the lips, that the stomach has been reached. But this generally is known by a spasm of the cardia, which react to a slight pressure and causes an effort to vomit. Sometimes, but rarely, there is a sudden escape of gases, and of the contents of the stomach; this must be borne in mind in order to protect the patient's clothing. To fill the tube the funnel must be raised one meter above the level of the stomach, and filled with liquid to the amount of from one to two liters; then, by bringing it below the epigastric region, the fluid injected can be seen filling the funnel and holding in suspension the matter contained in the stomach. Dr. Constantin Paul advises the use of cold alkaline water, terminating the operation with warm water. The antiseptics, etc., are highly spoken of.

The operation terminates with the introduction of from 2 to 300 grams of milk in the stomach, and, to prevent the pyloric dilatation, the abdomen must be compressed with a large bandage, or, when possible, have the patient walk for a few minutes.

Such are the details of the operation according to Dr. Paul. We will see now what benefits we can derive from its use.

The washing of the stomach will instantly suppress the pains in cases of neuralgia and chronic gastritis; it will calm the consecutive oppression in cases of dilatation of the stomach.

It stimulates the appetite, and brings a rapid augmentation in weight. Drs. Sée, Buocquoy, Ferrand and Paul, have had surprising results from it in cases of gastritis, hysterical vomiting, dyspepsia, ulcers and cancers of the stomach; in this last, it is true, the relief is only temporary. Dr. Paul has even utilized it in

a case of strangulated hernia, to save the patient the disagreeableness of fœcal vomiting.

Its use in cases of recent poisoning need not be commented upon—*Revue Médicale*..

REMARKABLE THERAPEUTICAL EFFECTS OF THE INTERNAL USE OF CARBOLIC ACID IN THE TREATMENT OF PYREXIAS. By DR. RAYMOND.

It is in the course of typhoid fever, particularly, that Dr. Raymond has obtained happy results from the use of this medical agent, given both in the form of pills and lavements.

Dr. Raymond stated before the Biological Society, that instead of having recourse to the old therapeutical doses of 10 to 12 grams, he prescribed it at the rate of one gram per day, 50 centigrams in three pills, and 50 centigrams in lavement.

Its effects are manifested soon after the taking. Lowering of temperature of from 3 to 4 Centigrade, and a considerable diaphoresis take place, which in a half an hour become intense.

Is this diaphoresis caused by carbolic acid? Dr. Raymond has plainly demonstrated that it is; by injecting ¼ of a milligram of duboisia hypodermically he has suddenly stopped the diaphoresis, the lowering of temperature taking place as before. The results are not always identical, being more marked after two or three days of treatment, when it becomes more rapid and energetic in its effects.

Such splendid success made him bold. He raised the dose from one to two grams, given as in the first dose, and he noticed signs of poisoning, dropping of temperature to 34°, convulsions, darkening of the urine. How can we justify, in the presence of such facts, the doses of 10 to 15 grams, which we used to administer in the past?

Dr. Raymond tried to use the carbolate of sodium for carbolic acid, giving that salt at the rate of 1 gram in 50, with the precaution that, according to Hallopeau, the patient must be kept under the constant influence of the drug. The same happy results were obtained, with the addition of this: that it

never exposes the patient to the poisonous effects of pure carbolic acid mentioned above. Carbolic acid is a very efficient agent in the treatment of contagious fevers, but its action is merely to reduce the temperature; in typhoid, for instance, it does not modify in any way the development of the different stages of the disease.

Given in form of lavements of 50 centigrams, and topically with the solution at 1-50, it is said to give excellent results in erysipelas.

In an operation for empyema, there was injected, by mistake, into the pleural cavity one liter of carbolic acid solution of 1.20; there was a sudden dropping of the temperature to 34°, and for nine days the urine of the patient was of dark color, notwithstanding the use of the sulphate of sodium. A fact worthy of notice is, that in tuberculosis, a non-contagious disease, carbolic acid has no influence over the fever.

As to the physiological mode of action of this agent, particularly in typhoid: It is not, according to Dr. Raymond, in its influence of immediate contact with the seat of the lesions that it must be looked for, because the carbolic acid is decomposed long before it reaches the lower part of the alimentary canal. The fall in the temperature is in this case of nervous origin, resulting from an action of carbolic acid on the great cells of the anterior cornua of the cord, produced through the medium of the vascular system, and, in the meantime, while this is manifested by a fall of temperature, it affects the whole of the sudorific gland. The appearance of convulsions, when too large a dose has been taken, is another point in favor of this hypothesis.—*Le Medicin Practicien*, July 30, 1881.

ON THE USE OF PHOSPHATE OF LIME IN THE TREATMENT OF CHRONIC BRONCHITIS. By DR. V. BRIDALLET. (*Revue Médicale, Feb.* 25, 1882.)

Phosphates, and particularly phosphate of lime, are so often used in the practice of medicine that I think it my duty to report a very remarkable recovery brought on by them.

In August, 1879, I was consulted by a young man, æt. 18, suffering from what had been pronounced by other physicians chronic bronchitis. A very careful examination confirmed the above.

Panting on the least exercise, violent and repeated coughing, more severe in the morning, abundant expectorations, loss of appetite and vomiting, the patient was very weak, extremely lean and complained of violent headaches. Percussion revealed nothing peculiar. On auscultation, rough breathing in the infra-clavicular region and under the scapula behind; over the infra-mammary region very marked sibilant râles covering the vascular murmur, pulse weak and frequent, temperature below normal.

The above symptoms pointed to a more serious state of affairs than is generally met with in the average case. Here we had chronic bronchitis, complicated with a very advanced stage of cachexia.

I analyzed the urine of 24 hours; the result was: Urea, 11 grams; uric acid, appreciable; sugar, traces; phosphate of lime, 5 grams—50.

The treatment had been rational up to that time: wine of cinchona, cod-liver oil, tar, soothing syrups. The same was continued, adding the milk diet, about two liters per day.

In November no change for the better had taken place. A second analysis of the urine revealed: Urea, 14 grams; uric acid, 45 centigrams; sugar, traces; phosphate of lime, 6 grams—40.

The patient was excreting an excess of phosphates. The results obtained from the treatment were insignificant. The urea had increased but the patient was losing his phosphate of lime, and the headaches were more severe. In May of the next year I saw him; he was entirely discouraged. I continued the milk and cod-liver oil, but in doses of one tablespoonful a day, adding the phosphoric treatment, giving Reinvillier's syrup of phosphate of lime, one teaspoonful three times a day (equivalent to 9 grams), and daily frictions with phosphorated oil. I prescribed a trip to the country.

After three months of country air, of Reinvillier's syrup, of frictions with phosphorated oil, I saw the patient; the cough had diminished considerably, the headaches were less severe and less

frequent, and the patient could indulge in long-continued outdoor exercise. The same treatment was continued, and in January, 1881, the cough and headache had disappeared, ascultation revealed a normal respiration and sounds, the expectoration was insignificant, the appetite was normal. A third analysis of the urine revealed no traces of sugar, urea and uric acid in normal proportions, and the enormous loss of phosphate of lime had stopped. I discontinued the milk, cod-liver oil and the frictions, but to assure a complete recovery, I continued Reinvillier's syrup for three months at the spoonful a day.

I saw the patient since and he is in perfect health.

This is another proof of the great value of phosphate of lime as a reconstituent, and of the significance of dephosphatization in most chronic diseases.

THE NIGHT MEDICAL SERVICE.—Brooklyn is just about to put into effect within her limits the statute in regard to the organization of a night medical service, such as has now been in operation in this city for one year. This service is in every respect a good thing—an important and almost indispensable contribution to the organization of the night life of a city. As the official report for the year recently made here showed, it has kept, as to expenditure, well within the limits of the very reasonable appropriation made; it has enabled a number of persons taken suddenly ill with distressing maladies to obtain immediately skillful medical attendance, and it has proved a welcome provision to the doctors who were called, as well as to those who, through this law, were freed from the common importunity to which doctors in cities are nearly always exposed, to go out at night and attend sick persons whom they do not know, and who cannot pay a fee. In every city, things would be better for the organization of such a service.—*Medical Gazette.*

Reviews and Book Notices.

ARTICLE XIII.— A PRACTICAL TREATISE ON IMPOTENCE, STERILITY, AND ALLIED DISORDERS OF THE MALE SEXUAL ORGANS. By SAMUEL W. GROSS, A.M., M.D. Philadelphia: Henry C. Lea's Sons & Co. 1881.

Dr. Gross has grouped together a large number of cases of disease of the male sexual organs, and gives us abundant opportunity to examine the evidence pro and con to substantiate the theories he advances.

In the opening paragraph of the preface, he boldly announces the proposition he endeavors to prove throughout the brochure. He says, concerning impotence and spermatorrhœa: "According to my observations, they usually depend upon reflex disturbances of the genito-spinal center, and are almost invariably induced or maintained by appreciable lesions of the prostatic portion of the urethra, etc." He has observed 137 cases of impotence induced by inflammation and hyperæsthesia of the prostatic portion of the urethra, and twelve cases from diminished or abolished reflex excitability of the genito-spinal center. He claims the latter cases occur in a class of subjects in whom the reflex excitability of the genito-spinal center is induced before prostatic inflammation declares itself, yet in nine of these cases strictures were formed. The question naturally arises, if prostatic inflammation and hyperæsthesia induce impotence, may not prostatic inflammation and subsequent anæsthesia, instead of the genito-spinal centers being impoverished, have produced the impotence in the twelve cases referred to?

The ground that masturbation frequently produces a stricture seems well taken, and proven by abundant authority.

The author divides the book into four chapters: I. Impotence; II. Sterility; III. Spermatorrhœa; IV. Prostatorrhœa. Impotence he subdivides into atomic, psychical, symptomatic and organic. Sterility, he argues, is due to azoöspermism, aspermatism and misemission. There are sixteen illustrations.

J. A. R.

ARTICLE XIV.—LECTURES UPON DISEASES OF THE RECTUM AND THE SURGERY OF THE LOWER BOWEL. By W. H. VAN BUREN, M.D., LL.D., Professor of the Principles and Practice of Surgery in the Bellevue Hospital Medical College. New York: D. Appleton & Co. 1881.

This work is the second edition, considerably improved and enlarged over the previous edition. It certainly deserves the place of being the most recent and intelligent work we have on the diseases of the rectum and their treatment.

J. A. R.

ARTICLE XV.—THE NATURE AND TREATMENT OF RABIES OR HYDROPHOBIA. Second Edition. By THOMAS M. DOLAN, L.R.C.P., etc., Physician to the Halifax Hospital.

An elaborate collection of the literature of the subject, with an hundred and fifty cases detailed as to clinical history and post-mortem examination. The results of various modes of treatment are compared. Modification of the disease by temperament and physical condition receives much attention.

The little book is a valuable one for reference in the history of the subject, and a useful one to the busy physician.

ARTICLE XVI.—POSOLOGICAL TABLE, Including all the Officinal, and most frequently employed Unofficinal Preparations. By CHARLES RICE, Chemist, Department of Public Charities and Corrections. N. Y.: William Wood & Co.

A handy little book for the prescription counter or the pocket. The doses given in the usual apathecaries' system are easily converted to the metric by tables appended.

ARTICLE XVII.—OPHTHALMIC AND OTIC MEMORANDA. By D. B. ST. JOHN ROOSA, M.D., and EDWARD T. ELY, M.D. Revised Edition.

This little work aims to give but a bare outline of the subject of which it treats, a sort of dictionary of ophthalmic and aural science. As such it is very good.

ARTICLE XVIII.—A NEW FORM OF NERVOUS DISEASE, TOGETHER WITH AN ESSAY ON ERYTHROXYLON COCA. By W. S. SEARLE, A. M. M.D.

The author describes at length a nervous disease which he has been unable to classify, characterized by a sensation of sudden shock, or blow, or explosion in some part of the head, usually the occipital region, and sometimes preceded by something similar to the aura of epilepsy, almost uniformly accompanied by intense vertigo, without convulsions or frothing at the mouth, or dilated pupils. No drowsiness or mania follows the attack; loss of consciousness rarely occurs. The author quotes from Hammond, Nothmayl and others that it is not epilepsy nor epileptiform, and denies it to be Beard's neurasthenia.

The essay on erythroxylon coca is very complete and interesting, the author believing that for nerve waste and excessive fatigue this is the remedy *par excellence*.

ARTICLE XIX.—THE STUDENT'S DOSE BOOK AND ANATOMIST COMBINED. By C. HENRI LEONARD, A.M., M.D., Professor, Medical and Surgical Diseases of Women, Michigan College of Medicine.

The most complete and compact collection of things useful to the physician, surgeon or student, we have seen.

ARTICLE XX.—SEA AIR AND SEA BATHING. By JOHN H. PACKARD, Surgeon to the Episcopal Hospital, etc.

This little manual for those who resort to the sea-shore, is comprised in ten short, attractive chapters, on general considerations of seaside resorts: bathing in the sea; accidents in bath-

ing; sea bathing for invalids; amusements at the sea shore; cottage life; sanitary matters; the sea-shore as a winter resort, and excursions to the sea shore. P. Blakiston, publisher.

ARTICLE XXI.—THE SCIENCE AND ART OF MIDWIFERY. By WILLIAM THOMPSON LUSK, A.M., M.D., Professor of Obstetrics and the Diseases of Women and Children in the Bellevue Medical College, etc., etc. With numerous Illustrations. 8vo. cloth, pp. 687. New York: D. Appleton & Co. 1882.

One of the best treatises on obstetrics, finely illustrated, and issued in the accustomed style of the books published by the Appletons. It is one of the first works on the subject by American authors, and should on that account become the accepted text-book in most of our colleges. Of course such a work cannot exhibit a great deal of originality; the one under consideration is especially remarkable for its well-sifted literature, appropriately chosen illustrations, and its scientific data above all. It is also better adapted to this country than any other.

ARTICLE XXII.—THE SYMPATHETIC DISEASES OF THE EYE.—By LUDWIG MAUTHNER, M. D. Translated from the German by Warren Webster, M. D., and James A. Spalding, M. D. New York, William Wood & Co. 1881.

We fully agree with the translators in saying that there is an urgent necessity for general practitioners to have a clear and reliable description of the multiform symptoms, and the treatment of sympathetic ophthalmia, so that they may at once recognize its presence, and act accordingly. But we seriously doubt whether Mauthner has succeeded in furnishing to the profession the desired book.

Books for the busy practitioner must impart the greatest amount of information in the fewest possible words; concise language and brevity are their greatest merits, prolixity of style is their worst fault. But that is just the fault we find in all of Mauthner's writings, that he often fails by the multitudes of words to convey clear ideas to the reader.

So in his present book, though it is the best, completest compilation ever published on sympathetic diseases of the eye, and highly interesting for the specialist, the statements of facts and the descriptions are so often interpolated by theoretical digressions that its value as a ready reference book for the busy practitioner is seriously impaired.

ARTICLE XXIII.—A TREATISE ON THE DISEASES OF THE EYE, By HENRY D. NOYES, A. M., M. D., Professor of Ophthalmology and Otology in Bellevue Medical College; Surgeon to the New York Eye and Ear Infirmary, etc. New York, William Wood & Co., series 1881.

The difference in the styles of the German and American medical authors could not be better illustrated than it is in Mauthner's and Noyes' books. Both authors set out for the same goal of writing a book for the instruction of practicing physicians. Although their works are of a different scope, the manner in which they acquitted themselves of their respective tasks, is very characteristic. Mauthner, selecting one single subject, spins out his lecture by prolixity and theoretical dissertations to a book of considerable size. Noyes, going over the whole field of ophthalmology, was so fearful lest his book should exceed the prescribed limits and convenient size, that he excluded religiously all superfluous discussions and everything non-essential to his practical end. And we fully agree with his view that a text-book for students and practitioners is not the proper ground for discussing the pros and cons of open questions and new theories.

The reader will find Noyes' book remarkably free from such digressions, and, therefore, derive more pleasure and benefit from its perusal than he is accustomed to receiving from ophthalmic works. The author's style is exceedingly lucid and concise, his views upon the merits or demerits of medical or surgical treatment, as the case may be, are couched in such definite language that there can be no doubt about his position.

There are, of course, some imperfections in the work, (for what book could be pronounced absolutely faultless?), which, however, with one or two exceptions, are, perhaps, only a matter

of judgment. Possibly, we attach greater value to the practical importance of certain affections, than the author was disposed to do. For instance, we failed to find any reference to seborrhœa of the tarsal borders, which disorder is often so annoying, and the occasional cause for such loud complaints on the part of the patient, that it should be considered in a text book. We also should have given that peculiar phlyctenular inflammation of the cornea, known as fascicular keralitis, greater prominence, and we should most decidedly have incorporated in a treatise for practitioners Dr. Kipp's valuable description of malarial keratitis. But, as we said before, these omissions may be accounted for by a difference of judgment, and they do not mar the general excellence of the book.

A strange mistake, however, occurs in the chapter on entropium. The text describing the operation for this deformity and the fig. 67, illustrating the procedure, are at war with each other, the illustration picturing one method and the text being a descriptive compound of two operative procedures which widely differ from each other in all essential features.

We mention these defects, not because we wish to be hypercritical, or to detract anything from the value of the work, but simply for the purpose of bringing them to the notice of the author, and we hope he will soon have an opportunity of eliminating these blemishes in a new edition of his otherwise excellent text-book. F. C. H.

ARTICLE XXIV.—ILLINOIS STATE MEDICAL SOCIETY—TRANSACTIONS. 1881.

A pretty octavo volume of 362 pages, bound in cloth, and beautifully printed. It contains many valuable papers, several of them remarkable for their originality and practical value; such, for instance, is the article of Dr. E. Fletcher Ingals on "Laryngeal Tumors." Some of the reports, as that on "Ophthalmology and Otology," by Dr. F. C. Hotz, are almost perfect in their way.

"Dysmenorrhœa," by Dr. Ellen A. Ingersoll, contains many different views from those long accepted, yet her hints are so plausible, and well sustained by her own practical experience,

that her paper will remain one of the best, and one which should be often referred to.

"The Present Status of Specialism in Medical and Surgical Practice," a spicy criticism by Dr. A. Reeves Jackson, enlivened its auditors at the annual meeting, and is certainly the most readable of any contribution to the present Transactions.

It would be difficult to qualify each article in the appropriate manner, for they are all worthy of praise, and they furnish to the busy practitioner an epitome almost of what is at present known in the various departments of medicine and surgery.

ARTICLE XXV.—GENERAL MEDICAL CHEMISTRY, FOR THE USE OF PRACTITIONERS OF MEDICINE. By R. A. WITTHAUS, A.M., M.D., Professor of Chemistry and Toxicology in the Medical Department of the University of Vermont; Professor of Physiological Chemistry in the Medical Department of the University of the City of New York; Member of the Chemical Societies of Paris and Berlin, etc. etc. 8vo, cloth, pp. 443. New York: William Wood & Co. 1881. (Wood's Medical Library.)

This is perhaps the best book in the series of 1881, and is unique in more than one respect. It supplies a want long felt by the medical profession in this country, and is so complete as to be as useful to chemists and professors of chemistry as to ordinary students.

The various organic compounds are treated of at greater length than in many text-books, forming, under the name Compounds of Carbon, more than half the present volume, which is theroby likely to help the manufacturing chemist and the toxicologist to a great extent. Chemical philosopy is treated of in a masterly manner, and the same can be said of the tests and reactions of each element.

In fact, this book does honor to a Library of Standard Medical Authors, and will induce some, doubtless, to buy the whole series, in order to possess a good text-book of medical chemistry.

ARTICLE XXVI.—ILLUSTRATIONS OF DISSECTIONS, in a Series of Original Colored Plates, the Size of Life, Representing the Dissection of the Human Body. By GEORGE VINER ELLIS, Professor of Anatomy in University College, London, and G. H. FORD, Esq. (Reduced on a uniform scale.) Vol. I, Second Edition. 8vo, cloth, pp. 233. New York: William Wood & Co. 1882. Wood's Library of Standard Medical Authors.

It seems that in issuing the present volume, the publishers desired to improve yet on former series. The plates, twenty-eight in number, are beautiful lithographs, and very accurate. The coloring is as well executed as we should expect in a work of this character, and the descriptions are full and accurate. One cannot easily understand how such valuable works can be given away at such low prices, and few practitioners now can afford to be without Wood's Library.

ARTICLE XXVII.—ESSENTIALS OF THE PRINCIPLES AND PRACTICE OF MEDICINE. By HENRY HARTSHORNE, A.M., M.D., Editor of American Edition of "Reynold's System of Medicine," etc. Fifth Edition, thoroughly Revised and Improved, with 144 Illustrations. 12mo. cloth, pp. 669. Philadelphia: Henry C. Lea's Son & Co. 1881. Chicago: Jansen, McClurg & Co., 117 and 119 State Street.

Probably no book on the Practice of Medicine has ever enjoyed the popularity of this one. A small book, or rather a monograph, a few years ago, it has rapidly evolved into a respectable handbook, which the reviewer has met on the table of every busy physician, and their verdict always has been: An indispensable book. No work ever exhibited a better average of actual practical treatment than this one; and probably not one writer in our day had a better opportunity than Dr. Hartshorne for condensing all the views of eminent practitioners in a 12 mo. The numerous illustrations will be very useful to students especially. These essentials, as the name suggests, are not intended to supersede the text-books of Flint and Bartholow, but they are the most valuable in affording the means to see at a glance the whole literature of any disease, and the most valuable treatment.

The 377 prescriptions at the end of the volume are very well selected, but we hope the next edition will have them translated into the Metric System at the same time with the old, as this lack is the sole defect of the entire work.

ARTICLE XXVIII.—A MANUAL OF HISTOLOGY, Edited and Prepared by THOMAS E. SATTERTHWAITE, M. D., of New York, in association with Drs. THOMAS DWIGHT, J. COLLINS WARREN, WILLIAM F. WHITNEY, CLARENCE J. BLAKE, and C. H. WILLIAMS, of Boston; J. HENRY C. SIMES, of Philadelphia; BENJAMIN F. WESTBROOK, of Brooklyn; EDMUND C. WENDT, ABRAHAM MAYER, R. W. AUNDON, A. R. ROBINSON, W. R. BIRDSALL, D. BRYSON DELAVAN, C. L. DANA, and W. H. PORTER, of New York City. With 198 Illustrations; 8vo., cloth, pp. 478. New York: William Wood & Co. 1881.

This is a carefully prepared volume, likely to meet the demand for such works, which, of late, are becoming rather numerous. However, a little economy in *blanks* and *interlines* had been to the advantage of the buyer. Histology is the most neglected, and the least practical branch of medicine, besides involving unprofitable expenses; yet the returns have not been fruitless in late years, and it is quite desirable that the present generation of students should pay some attention to it, for it is generally in the new fields that discoveries are made. As a pastime, none, perhaps, can compare with the use of a good microscope in the hands of a physician of some learning. Within a few years, microscopes have become cheaper and cheaper, so that good home-manufactured instruments may now be bought for a hundred dollars, which is yet too dear a luxury for most students, though indispensable to the practitioner. We would recommend the "Manual of Histology" to any physician or student who desires to be proficient in the medical sciences.

ARTICLE XIX.—THE HEART AND ITS FUNCTION forms one of the series of Health Primers published by D. Appleton & Co., and like the others, is brief, simple, and elementary in statement, suitable for the guidance of intelligent adults.

ARTICLE XXX.—A SYSTEM OF SURGERY, THEORETICAL AND PRACTICAL. In Treatises by Various Authors. Edited by J. HOLMES, M. A. First American, from Second English Edition, Thoroughly Revised and Much Enlarged by JOHN H. PACKARD, A. M., M. D., Assisted by a large corps of the most Eminent American Surgeons. In Three Volumes, with many Illustrations. Vol. II, 8vo., half Russia, pp. 1063. Philadelphia: H. C. Lea's, Son & Co. 1881.

The present volume, issued soon after the first, treats of Diseases of the Eye, Ear, Nose, Tongue, the Circulatory System; the Absorbent System; the Mouth, Teeth, Intestines, Rectum; Hermia; Diseases of the Genito-Urinary Organs; Surgical Diseases of Women. This last is by Jonathan Hutchinson. Among the American revisers are J. Solis Cohen, Lewis A. Stinson, James Truman, D. D. S., J. H. C. Simes, John H. Packard, Edward L. Keyes, etc. The illustrations are 309 in number, and four lithographs. The second is not inferior to the first volume, and deserves the patronage of the profession, the world over. The rapid specializing of the various branches of surgery, together with their enormous increase in our day, have rendered it impossible henceforth for any surgeon to write an intelligent text-book on the subject, so that the book here presented is indispensable for ordinary physicians as much as for specialists, and all those practitioners who are made to feel the pressing necessity of keeping up with the rapid advance in surgery. We wish the proof-reader to be more careful in his treatment of the last volume. H. D. V.

THE Woman's Medical College of Baltimore has recently been incorporated. The course of lectures will begin October 1, 1882. Seven professors, all of them gentlemen, have already been appointed.

Editorial.

ARTICLE XXXI.

THE NEW YORK STATE MEDICAL SOCIETY AND ETHICS.

Most of our readers have probably learned before this time that at the annual meeting of the Medical Society of the State of New York, in February last, a revised code of ethics was adopted for the government of that society, and of such county medical societies as were eligible to representation in the State society. The revised code was reported by a committee appointed the year previous, and consisted substantially, and to a great extent literally, of those parts of the code of the American Medical Association which relate to "the relations of physicians to the public," and "the relations of physicians to each other," with "the rules governing consultations."

Under the two first heads there is nothing in the revised code that in the least contravenes the letter or spirit of the national code. But under the head of "rules governing consultations" there are three important deviations from the code of the American Association. The first two are contained in the following paragraph, which has been substituted for section 1 of Art. IV, of the duties of physicians in regard to consultations:

"Members of the Medical Society of the State of New York, and of the medical societies in affiliation therewith, *may meet in consultation legally qualified* practitioners of medicine. Emergencies may occur in which all restrictions should, in the judgment of the practitioner, yield to the demands of humanity."

If the reader remembers that in New York, as in this State, the words "*legally qualified practitioners*" mean any and all persons who have received a license from the State Board, whether

they call themselves homœpaths, eclectics, hydropaths, or some other *paths*, he will see at once the leading object of the *revisors*. The adoption of the legal qualification or simple State Board license as the standard, and the omission of the clause declaring the unfitness of those "whose practice is based on an exclusive dogma," open the way fully for unrestrained consultations with those practicing every species of *pathy* and *ism* extant. The third deviation from the national code is embraced in the following paragraph: "In case of acute, dangerous or obscure illness, the consulting physician should continue his visits at such intervals as may be deemed necessary by the patient or his friends, by *him*, or by the attending physician." Here is a latitude given for the continued attendance of a consulting physician after having once been called, which should certainly satisfy the most aggressive consultant in New York, or elsewhere.

He is not to be guided in the repetition of his visits by the request of the attending physician, as has been hitherto deemed honorable and just; nor yet by the request of the patient or his friends; but he is to go as often as his own judgment, ambition, or avarice may dictate. It would be difficult to construct a rule more unjust to the attending physician, more open to the grossest abuses, or better calculated to deter the attending physician from suggesting council in the first instance.

We cannot but regard this attempt on the part of the New York State Society to encourage its members to repudiate some of the more important features of the national code, by opening the door to free intercourse with and recognition at the bed-side of every exclusive dogmatist who may be able to procure a license from a State or county board of examiners, or from some kind of chartered medical institution, as most unwise, ill-timed, and injurious both to the interests of the profession and of the community. It is unwise, first, because no good can come to the sick from the introduction of discordant elements into consultations at the bed-side; second, because it directly encourages the practice of hypocrisy and fraud, just where strict integrity and faithfulness is most needed; for either the exclusive dogmatist or the rational physician must consent to dissemble his real convictions and agree to carry out views and practices in which he has no

faith, or there can be no agreement; and third, because the step taken is directly calculated to encourage and perpetuate in the minds of the non-professianal public the gross and radical error that legitimate medicine is only *one* of the numerous schools, creeds, or dogmas, distinguished from the rest chiefly by having a more numerous following.

The action of the New York Society was exceedingly ill-timed, because it was taken when it was apparent to every well informed observer, that the followers of Hahnemann were rapidly abandoning their adherence to the distinctive features of homœopathy, and in numerous instances, dropping their distinctive name; and it only required the maintenance of an unbroken adherence to the time-honored and just ethical rule that "no one can be considered a fit associate in consultation, whose practice is based on an exclusive dogma, to the rejection of the accumulated experience of the profession," to have substantially banished the name of homœopath before the end of another generation. The two principal arguments presented by the advocates of the change were "that on grounds of common humanity, it was wrong to refuse skilled services to suffering when in need," and that "it was illiberal and ungenerous, and inconsistent with the spirit of the age, to withhold professional aid from other practitioners simply because they were of a different creed or belief." Both these rest on assumed fallacies, and lead directly to false inferences. The first assumes that a refusal to recognize and consult with an exclusive dogmatist is necessarily a refusal to extend skilled service to the suffering when needed. The assumption here is too plainly false to need illustration.

If a man gets sick, and *voluntarily* takes refuge behind a polecat, and then sends for me to come to his aid with my professional skill, at the same time keeping himself in such a position that I cannot reach him without getting sprinkled with the odoriferous secretion of the polecat, do I *refuse* to extend skilled services to the suffering, when I say to the sick man, you must sever your relations to the polecat before I can come to your aid, knowing that he can make such severance any moment he chooses? It is not only the right, but the duty of every man capable of rendering skilled services to the suffering, to attach such condi-

tions to the rendering of such services as will both preserve his own honor and ensure from those services the greatest benefit to those on whom they are bestowed.

The pretense that it is illiberal and contrary to the spirit of the age to withhold professional aid from other practitioners, *simply* because they were of a different *creed* or *belief*, is based on the plainly implied fallacy that legitimate medicine of the present day is only a *creed* or *belief*, *differing*, it may be, from other creeds or dogmas, but nevertheless a creed. Here is the fundamental error of all the advocates of the so-called *liberal* policy of the New York revisors. Instead of recognizing the all-important fact that the medical science of the present day is neither a creed nor a bundle of dogmas, but all that part of the domain of general science that relates to a knowledge of the structure and functions of the human body in health and disease, and of those agents and influences capable of modifying such structures and functions, they are constantly using expressions countenancing the public error that legitimate medicine is only one of numerous systems, schools or creeds. They seem to forget that legitimate medicine is inherently and necessarily liberal, neither knowing nor recognizing creeds, sects or isms. Her field is as broad as the domain of human knowledge and the existence of human suffering; and whoever chooses to enter that field under the simple title of doctor of medicine enjoys the most perfect liberty of thought and action. He selects his remedies from any source he pleases, applies them in accordance with any principle his own judgment approves, and in any dose which he thinks best calculated to benefit his patients. Consequently he is in a condition to meet and consult with all who are pursuing the same calling on the same broad platform. But when a man adopts a special and exclusive principle or dogma for his guidance, whether it be the law of *similars* or of *attenuations;* or a particular remedy or class of remedies for the cure of all diseases, he becomes of necessity exclusive and illiberal. By adopting his special dogma, and a distinctive name in accordance therewith, he at once voluntarily severs himself from the great body of medical practitioners, and literally notifies all the world, by the title he

assumes, that his practice is regulated by the exclusive dogma indicated in such title. He cannot be liberal enough to meet other physicians on the open field of therapeutic inquiry, without belieing his title and placing himself in the attitude of a dissembler or hypocrite. The distinctive title he assumes must either express his honest convictions concerning the proper method of practice, or it becomes a standing lie to the public.

But the man who assumes a distinctive name indicating his adherence to a special system or dogma, not only voluntarily severs himself from the great body of practitioners, but he necessarily places himself in antagonism to that body, and gives his whole influence to the creation and maintenance of a sect or party which serves to distract public attention, create false impressions concerning the nature of the profession, and to interfere with all proper and just legislation on medical and sanitary interests. In other words, when a man adopts an exclusive dogma and a name indicating it to the public, he voluntarily fences himself within a narrow enclosure of his own construction; and neither the interests of humanity, the cause of true science, nor the honor of the profession require any physician to climb over, creep through, or crawl under the fence he has thus erected, to consult with him for any purpose whatever. And yet this is just what the modern revisors of our code of ethics in New York propose to do. Their position is untenable in every aspect in which it can be viewed, and is not sustained by the action of any other respectable body of medical men in Europe or America. If the followers of exclusive dogmas or their patrons wish for consultations, let them drop their distinctive names, come out of their self-constructed narrow pen, and take their place on the common platform of medical science simply as doctors of medicine and honorable men. Until they do this, no physician can meet or consult with them at the bedside, without compromising his own self-respect, and inflicting a positive injury on the cause of true science and humanity.

ARTICLE XXXII.

TO THE MEDICAL PROFESSION.

"The *Pharmacist* desires to know what is your code of ethics,—to what are you willing to subscribe? We were formerly somewhat certain of what your code of ethics was, but recently we have had so many of the old pillars of the "æsthetic" structure rudely demolished that we have to ask for information as to the portion that does remain. Does your code of ethics forbid you to prescribe a patent medicine—a medicine the working formula of which is unknown, the ingredients of which in their *exact* proportion is not known? A medicine, the name of which can be used only by one manufacturer?

"Is it in accord with your code of ethics to prescribe Listerine, Safoline, Purifinis, Bromo-Chloralum, Lactopeptine, Firwein, Diptherine, Dextro-Quinine, Bromidia, Iodia?

"Is it necessary for you, in order to conform to the code of ethics, to know what is in the medicine you prescribe? If so what are the ingredients of any or all of the ten articles mentioned above? Could you and a practical pharmacist produce the same by applying all your knowledge of it together with his pharmaceutical knowledge?

"If not necessary to know what you are prescribing, is it contrary to the spirit of the code of ethics to prescribe Jayne's Expectorant, Bull's Sarsaparilla, Helmbold's Buchu, Injection Brou, Tarrant's Extract of Cubebs and Copabia, Warner's Kidney and Liver Cure? If this is not contrary to your code of ethics, why do you object to the druggist selling them?

"The *Pharmacist* truly states that it does not know on what code of ethics the medical profession stands, and is all at sea when it attempts to set a bound beyond which the medical profession will not go.

"Gentlemen, is this not true? and is it not your duty to help your brother profession to the extent of defining your position?'
—*Pharmacist and Chemist.*

In reply to the above numerous questions asked by the *Pharmacist and Chemist*, of this City, we answer, emphatically, that both the Code of Ethics and the *Code of Common Sense, do forbid* the prescribing of any "patent medicine,"—or medicine "the working formula for which is unknown,"—or, "the name of which can be used only by one manufacturer."

In other words our professional Code of Ethics is strictly opposed, both in letter and spirit, to all use of patents, trade marks, copy-rights, or secret processes in the manufacture and sale of medicines to be used for the treatment of disease. We do not knowingly use medicines thus restricted, and for years have refused even to look at them when thrust before us by the numerous agents traveling over the country with their *elegant* samples.

There is but one plain, honest, scientific rule for the guidance of both physician and pharmacist; namely, the former while at the bed-side of his patient, should determine with careful discrimination, not only the exact composition but also the relative proportion of each constituent of the prescription he makes, that both may be accurately adjusted to the wants of the individual patient, while the latter should exercise all his skill in the direction of furnishing pure medicines of standard strength, and in forms most reliable for preservation and convenient for use. The whole modern flood of proprietary medical compounds, is, to the community, a most expensive luxury, and to the medical profession a positive nuisance.

MASTURBATION.—Dr. William A. Hammond, in a letter to the *Louisville Medical News*, says that masturbation is "a vile, vicious, degrading and demoralizing practice, that no one could be guilty of without self-abasement," but that so far as the generative organs are concerned; so far as the physical effects go, it is "no more injurious than a corresponding amount of sexual intercourse. Young men and boys injure themselves by the act, because the facilities for performing it are greater than they are for indulging in sexual intercourse." Prof. Hammond is an authority on this subject, and his assertions will set at rest many disquieted minds.

Abstracts.

A MODIFICATION OF LISTER'S ANTISEPTIC DRESSING.* By JAMES L. LITTLE, M.D., Professor of Clinical Surgery in the University of the City of New York; Professor of Surgery in the University of Vermont, etc.

Although having full confidence in Mr. Lister's antiseptic method, I, like many others, have long recognized the great difficulty that must needs be experienced by the general practitioner in attempting to carry out the minute details of the dressing, and have for a long time been hoping that a more simple method, equally efficacious, might be devised.

Dr. Markoe's "through drainage" was a decided step in this direction—antiseptic in character, simple in detail, and successful in result. This method, however, is appropriate only where drainage is necessary, but, simple and efficient as it is, it requires a certain degree of attention, which, while easy for the hospital surgeon, is not sufficiently so to guarantee its extended use by the physician in charge of a large general practice.

Furthermore, the materials necessary for fully applying Mr. Lister's dressing are somewhat expensive, a very important fact when we consider that the majority of accidents and operations that call for this procedure occur among those who are able to bear but little expense.

I have for several years been surgeon to a large factory in this city, in which three thousand hands are employed, and where injuries by machinery are quite frequent. These injuries consist chiefly of wounds of the hands and fingers, caused by their being

*Read before the New York Surgical Society, November 8, 1881.

caught in the cog-wheels and other parts of the machinery. In many cases the fingers are torn off, tendons are pulled from their sheaths, joints are opened, and the hands are often severely crushed and lacerated. In all of these cases I have, for the past six years, been using the following simple antiseptic dressing: Having put the parts in a condition for dressing, I wash the wound in a solution of carbolic acid of the strength of one to twenty; I then cover the parts with a thick layer of borated cotton, and then snugly and evenly apply a simple gauze bandage. At first I used bandages made of antiseptic gauze, but for the past three years have used those of plain uncarbolized cheese cloth. These thin bandages distribute the pressure more evenly over the cotton, and are more evenly saturated with fluids than those made of unbleached muslin.

The patient is instructed to keep the outside of the dressing wet with a solution of carbolic acid of the strength of one to one hundred. I frequently employ Squibb's solution of impure carbolic acid, which is of the strength of one to fifty, and which, when mixed with an equal bulk of water, gives a solution of the desired strength.

The parts should be kept at rest, and the dressings may be left undisturbed for several days, unless there is pain, rise of temperature, or discharge through the dressings. These conditions are always to be considered indications for re-dressing.

In many cases where rubber drainage tubes have been used they may be removed at the second dressing, and, if catgut has been used for sutures, this second dressing can be allowed to remain on for an indefinite period. In a number of cases of lacerated wounds I have allowed the first dressing to remain on until the wound has entirely healed. In these cases the external use of carbolic lotion was discontinued after the fifth or sixth day, and the dressings would become dry and hard, the wound healing, as it were, "under a scab."

The patient should be instructed to loosen the bandage at once if any pain occurs.

My experience with this dressing covers, as I have said, a period of about six years, during which time I have treated nearly three hundred cases of open wounds. Not one of this

number has been followed by inflammatory symptoms. Extensive lacerated wounds have healed, and dead tissue has sloughed away, without giving rise to any of the so-called symptoms of inflammation. Neither pain, redness, heat, swelling, nor constitutional disturbance has resulted. In no case has there been reddening of the lymphatics or tenderness of the glands. No counter openings have been necessary. Pain has been entirely absent, so that anodynes have not been needed, save in a single case, and that for one night only, to control slight restlessness.

These results are the more remarkable from the fact that many of these patients were in an unhealthy condition, some suffering from anæmia, some from cardiac disease, phthisis, and the like.

Recently I used this modified dressing in St. Vincent's Hospital, in a case of amputation of the leg. This case did as well as any case could have done under the most rigid Lister dressing.

The value of cotton-wool as an antiseptic dressing is, I think, not fully appreciated by the profession. M. Guérin, of Paris, in 1872, and since then Mr. Gamgee, of Birmingham, England, have called attention to its great value. Used in the way I have indicated, it seems to me to be as perfect an antiseptic dressing as the gauze and other materials recommended by Mr. Lister, while at the same time it is free from all objections that pertain to the latter, and which materially hinder their use by the general practitioner. If applied in sufficient quantities around an open wound, it protects it thoroughly from the "floating matter of the air" which is supposed to be the real inciter of suppuration. It is the best germ filter known to us. Tyndall, whose experiments were very carefully made, found that while filtering the air, and endeavoring to get it perfectly pure, atmospheric dust, which would readily pass through sulphuric acid and a strong solution of caustic potash, was completely stopped by ordinary cotton-wool.

I have used the very excellent borated cotton made by Mr. am Ende, of Hoboken, containing 15 per cent. of boraic acid.*

* A great deal of the so-called borated cotton sold by dealers is made with a solution of borax, instead of boracic acid, which can always be ascertained by burning a piece of the cotton; if the cotton has been properly prepared with boracic acid, the flame is of a bright-green color, but, if, as is generally the case, borax has been used, the flame will show very little of the green tint.

Keeping it wet externally with the solution of carbolic acid, in the manner already described, renders it more surely antiseptic.

To insure success in the cases where the dressing is used, full precautions as to rendering the instruments, sponges, and the hands of the surgeon aseptic, and the use of drainage tubes if necessary, should not be neglected. Catgut or torsion should be used to arrest hæmorrhage. The spray may be resorted to, if thought necessary. At the second dressing, I now usually apply carbolized oil, of the strength of one to twelve, to the wound to facilitate the removal of the cotton, which is otherwise apt to adhere after the first dressing.

I would state, in conclusion, that my experience, thus far, seems to show that this simple dressing, so easy of application, is as thoroughly antiseptic as Mr. Lister's appliances, and that it has the very decided advantage of doing away with the necessity for using costly "protective oil-silk," "Macintosh cloth," "carbolized gauze," etc., and give us a dressing that can be used by any one under any circumstances, be it in the city or in the country. The borated cotton is easily kept for months unchanged. The fact that the dressing need not be done oftener than once in several days will especially commend it to the country physician.

The success of this procedure in the treatment of large wounds after accident or amputation will increase its importance, and materially extend its field of usefulness.

THE POST PARTUM MANAGEMENT OF THE PARTURIENT STATE.

Abstract of a Lecture by WILLIAM M. POLK, M.D., Professor of Obstetrics in the University of the City of New York.

Immediately after labor the condition of the blood, of course, differs little from what it was before that occurrence; but within a short time, within a few hours afterward, it contains a larger proportion of excrementitious material. The large amount of material which before went to the nourishment of the child is no longer used for this purpose, but is turned directly upon the mother's circulation, and as it contains a large amount of fibrin and excrementitious material, it must be gotten rid of by the

excretory organs, else it will act as a poison. The state of the nervous system will differ in different patients acccording to their individual nervous organization. There is always a certain amount of shock consequent upon delivery; the greater the amount of suffering the greater the amount of shock. The shock of labor differs in no respect from the shock which you are familiar with in surgical procedures; of course, however, that of labor, unless that after instrumental delivery, is rarely so great as that after severe surgical operations; but it is simply a difference in degree, not of kind. The shock which occurs after a simple labor, is usually not sufficient to cause any great amount of apprehension, but that which occurs after graver operations, as version or craniotomy, is sometimes sufficient to terminate fatally shortly after delivery. In fact, a number of cases have been recorded in which the sole cause of death was shock which, as already said, was identical with surgical shock. You are therefore to give the patient that attention which will enable her quickly to rally from the effect produced upon her nervous system. Extreme shock, when present, indicated by clamminess of the surface, etc., demands stimulation.

The temperature of the parturient woman should not normally stand higher, during the first two days and a half, than from 98° to 99° F. If it go above that point, say to 100.5° or 101°, and remain there, you may be sure that some septic element is at work, and act accordingly.

About the third day after delivery there is a tendency to a slight elevation of the temperature, because of the incoming of the milk. In some women there will be no elevation of the temperature at this time whatever; in others, there will be rather a decided febrile reaction. The temperature may rise to 100°, or even to 101°. This, if it be due simply to the incoming of the milk, will subside as soon as the milk begins to flow; if it continue a longer time it is rather an indication of some degree of sepsis also.

A word or two with reference to the secretions in general. They are all increased immediately after delivery. You will find that the skin acts more freely than during labor; the flow of the urine is greater. Possibly the alimentary canal will show a dis-

position to act; but, although the excretions by way of this channel may be increased, as a rule, there is no outward evidence of this. The tendency after delivery is to constipation. The reason for this apparently is the habit of most women to constipation during pregnancy, and to the fact that as the child's head passes down through the pelvis it produces a certain amount of temporary paresis of the rectum by pressure. Because of this tendency to inactivity of the bowel after delivery, the old fashion was to administer a cathartic in the form of Epsom salts or castor oil, but the fastidiousness of the women of the present day rather leads them to favor the use of the enema, and since the trouble is chiefly due to inactivity of the rectum itself rather than to other parts of the alimentary canal, this method of relieving the constipation seems to be the more appropriate.

When you return to see the patient after the first twelve hours, make it your rule, as soon as you have felt the pulse, to inquire as to the condition of the bladder. You will find in not a few cases that there is a tendency to retention, even though labor may have been natural, and it is due to pressure of the child's head upon the bladder or the urethra during delivery, producing temporary paresis. If you find that the bladder has not acted, you must, of course, resort to some means to bring about its activity. There is a tendency of the bladder to empty itself at the same time that the rectum does; therefore, it is my rule, on visiting the patient twelve hours after confinement, and finding the bladder has not yet acted, to tell the nurse to administer an enema, using, if necessary, as much as three pints of water, or even four, to be injected slowly into the rectum, so that as much as possible may be retained. When that enema passes away it is found that in the large majority of cases the bladder also empties itself. In connection with the use of the enema, you can obtain beneficial results by applying hot cloths or a hot flax-seed poultice over the region of the bladder, which, by its relaxing effects, tends to correct any spasm which may exist and give rise to retention. If these remedies do not succeed, nothing will remain to be done but to introduce the catheter.

While speaking of the secretions and excretions of the parturient woman, it is proper to refer to the lochial discharge.

From the time that delivery is completed, there is for at least the first three or four days a bloody discharge—a sanious discharge, more properly speaking—which comes from the cavity of the uterus. After five or six days this discharge changes color, becoming greenish, and finally yellowish. It retains the appearance in general for the remaining three weeks of the parturient period; at the end of that time it usually ceases. If the bloody lochial discharge continue for a longer period than five or six days—say ten or fourteen days—the probabilities are that it is due to some abrasion of the cervix—a laceration, perhaps, from which there is an oozing of blood. Such a condition of things, it is likely, would call for treatment.

A part of this structure (the enlarged uterus), of course, as it undergoes fatty degeneration or involution, is carried off by the lymphatics and the blood-vessels into the general circulation, and is excreted through the kidneys, through the skin, and apparently through the alimentary canal. But a certain portion of it unquestionably passes out with the lochial discharge. The relation which the lochial discharge has to this process is perhaps not unlike that which the expectoration of sputa bears to the resolution of pneumonia.

It seems to me that no harm can come from the employment of the carbollized douche after every case of delivery, provided you take this precaution, to have each patient provided with her own glass tube or nozzle and syringe. There will then, it seems to me, be no danger of infection. Use then the douche in every case, commencing, say twenty-four hours after delivery. It is rarely necessary to begin sooner than this, because decomposition, except in rare cases, does not take place until the expiration of that poriod. But if, owing to the season of the year or some predisposition of the patient, you have reason to believe that decomposition will occur, or has occurred before that time, then do not hesitate to employ the douche sooner—even six or twelve hours after delivery. How to make intra-uterine injections I explained to you when speaking of septicæmia, and it is only in that state that you are to employ them. The average period of time that the patient is kept under observation is about nine days from delivery. Now, the wiser plan is this: to see the

patient for six or nine days daily; see that her constitution is what it should be at that period; that she is in fair condition of strength, the appetite good, the functions being performed naturally. Say to her, however, I wish to see you about five or six weeks hence, in order to examine the condition of the genital passages, to find out whether there is remaining any laceration of the cervix, and whether the uterus is in a state of subinvolution. If you dismiss your patient six or nine days after delivery with the condition I speak of, possibly she will not come back into your hands, but pass into the hands of some specialist, who will call attention, perhaps, to a piece of bungling midwifery, which, of course, will not react very favorably upon your reputation. Now, it is unnecessary to say that the making of these cases of laceration may not be because of any special fault on your part, but that is not so much the point as is the fact that by seeing the woman after five or six weeks you may put her in a position to correct any difficulty that may be present.—*Med. Record.*

NOTES ON THE USE OF NITRO-GLYCERINE IN THE TREATMENT OF HEART DISEASE. By W. E. GREEN, M.R.C.S., Isle of Wight.

I propose to bring before you certain results obtained by me in the treatment of heart disease with a somewhat recent remedy, viz., nitro-glycerine. This is a most potent remedy, and I believe I am not overstating its merits when I say that it deserves to rank only second to digitalis in the treatment of disease of the heart.

The action of the drug, which was first noticed by Field, of Brighton, has been experimented upon by various observers, chief among whom may be mentioned Hering, Demme, Alders, Onsum, Brady, Pelika, Thorowgood, Eulenberg, and Weber. In 1876 Dr. Lauder Brunton wrote a valuable paper in the St. Bartholomew's Hospital Reports, detailing its peculiar physiological action upon animals, as tested in the pharmacological laboratory of that hospital. It is to Dr. William Murrell, however, that the medical profession is chiefly indebted for intro-

ducing it as being of great value in the treatment of certain diseases. From a consideration of the physiological action of this substance, and especially from the similarity existing between its general action and that of nitrite of amyl, as set forth by Dr. L. Brunton, Dr. Murrell was led to infer that it would probably be of service in the treatment of angina pectoris, and his result may be seen by a reference to his valuable paper in the *Lancet* of the early part of the year 1879.

I will briefly detail its mode of action and the preparation usually employed.

The solution is the form most usually used, and this is a 1 per cent. solution in spirits of wine. One minim is the usual dose to commence with, but in some cases even less may be given with advantage. It can either be taken in water or one drop may be placed upon the tongue. The solution is almost tasteless, but within three minutes of being taken it begins to exert its peculiar physiological properties. It paralyzes the vaso-motor nerves, and so dilates the blood-vessels; the face flushes, the temples throb, the pulse becomes dicrotic and much quickened; in some cases the head aches most violently, but in others only a sense of fullness and pain across the forehead is experienced, which lessens with each recurring dose, until ultimately no unpleasant effect but simply a warming sensation all over the body, is produced.

A feeling of nausea, or even sickness, is often caused by the earlier doses. The quantity may be gradually increased until fifteen or twenty minims every four hours are given, but I have never found it necessary to administer such heroic doses. It is never wise to give more than one minim at first, for even this small quantity has produced most serious symptoms in certain individuals. The patient has fainted, and has become almost collapsed, but I am not aware that it has ever been followed by a fatal result. I have never myself seen these alarming symptoms, but in two cases have found unpleasant symptoms to succeed a first dose, both cases occurring in hysterical women. The medicine, in one case, was taken without my being consulted (the patient having seen it produce good effects in her father's case); in the other, I prescribed it for certain nervous symptoms, but, at that time, not having had so much experience in its use, I did

not like to persevere. The physiological effect of nitro-glycerine is not so rapidly produced as is that of nitrite of amyl, but it continues from four to six or even eight hours, after which time it is often advisable to repeat it.

I have never found it produce unpleasant effects in any case where its use was plainly indicated, and each day's experience more clearly shows the cases likely to be benefited by it.

While useful in almost all cases of heart disease, I believe those in which it will be found of the greatest benefit are, first, angina pectoris, and second, weak, dilated, and fatty heart. In angina it prevents an attack by keeping the blood-vessels in a constantly dilated condition, and thus prevents the backward pressure of blood upon the heart, which is probably the cause of the agonizing pain of angina.

In weak, dilated hearts it gives relief by reducing arterial tension, and thus lessening the amount of work the heart has to do. The heart, consequently, gains in power by the rest so given to it. As a rule, digitalis does not agree in these cases; but, if thought necessary, it may be given with increased advantage in conjunction with this drug. In several cases of dilated heart, with small, weak, quick pulse, I have seen the beats not only increased in power, but much reduced in frequency, after taking nitro-glycerine for a few days, thus plainly showing that the heart had been relieved of much of its embarrassment, and as a consequence had gained in power. I have used this drug largely during more than two years, and each week my appreciation of its value as a remedy for this classs of cases increases. There are numerous other affections in which it will prove of value, but such do not come within the scope of my present paper. Bearing in mind its physiological action, it will be easy for you to select the cases in which its use is indicated. (The author relates here half a dozen remarkable cases, and adds:) I could relate numerous other cases showing the value of this remedy in heart disease. The cases cited, however, are sufficient to prove that in this new agent we have a very powerful measure in diseases of the heart. It is a remedy, moreover, which is not only palliative, but in many cases actually curative, and I think I may lay

claim to having discovered its application to a much larger and more common class of casses than those originally laid down by its introducer, Dr. Murrell.—*The Practitioner.*

THE HYPODERMIC INJECTION OF QUININE. By J. B. SCRIVEN, late Civil Surgeon of Lahore.

The exceptional severity of certain epidemics of malarious fever, such as that which has recently desolated Umritsur, and the frequent difficulty, from the presence of both vomiting and diarrhœa, of administering quinine either by mouth or rectum, naturally suggests the inquiry whether there is not some other mode of introducing the antidote into the system, which shall not be interfered with by the irritability of either stomach or intestine.

I made some remarks on the hypodermic method in a former number of the *Lancet*, and gave a formula for dissolving the quinine with tartartic acid. Having had now four years further experience in the East, I can speak still more strongly of the efficacy and safety of this method of treatment. I have used it in a great number of cases since 1876, being careful to carry out my own proposal for the avoidance of abscess and ulceration—viz., to introduce the nozzle of the syringe so that the aperture, by which the quinine escapes into the cellular tissue, shall be turned *away* from the skin. The result has been that I have not had a single instance of abscess, ulceration, sloughing, or evil effect of any kind, save a temporary inflammation of arm, requiring rest and cold lotions. As a possible exception to this, I ought to mention that one patient, on whom I operated several times, has now a slight contraction of the extensor indicis tendon; this, however, did not arise until some months after the last injection, and she had rheumatism of the wrist in the interval. It is well, from the moment of the injection, to give the limb absolute rest for a few days, in order to limit or prevent the inflammation.

I have had no case of tetanus since I began to use the tartartic solution in 1872; and I believe the dangers, which have

led to the prohibition of the subcutaneous use of quinine in the army of India, have no existence, if the precautions I have recommended be observed.

It appears to me that the tartartic solution is greatly preferable to the aqueous solution of the neutral sulphate, on account of its higher concentration, the tartartic solution containing one in three, whereas the solubility of the neutral sulphate is only one in twelve.

In 1876 I made a strong point of filtering the solution. Latterly, finding my quinine free from visibly insoluble particles, I have dispensed with this precaution, as a large quantity of the solution was always absorbed by the filtering paper.—*Lancet.* H. D. V.

PREVENTION OF THE INTRODUCTION OF CONTAGIOUS DISEASES.

At a special meeting of the Michigan State Board of Health, held at Ann Arbor, March 1, 1882, the following preamble and resolutions were adopted:

WHEREAS, Measures for the prevention of the introduction of diseases from foreign countries into the United States are of national importance, affecting not only the Seaboard and Gulf States, but also States in the interior, as evidenced a few years since by the wide-spread disaster from yellow fever, and recently by the wide diffusion of imported small-pox; therefore

Resolved, That in the judgment of this Board, such measures should be continued by the National Board of Health and undertaken by the United States Government as will best and most effectually prevent the introduction of disease into the United States.

Resolved, That our Senators and Representatives in Congress be, and they hereby are respectfully and earnestly, requested to use their influence toward securing any appropriate legislation which may be necessary to this end.

Selections.

AN ADDRESS ON DOMESTIC HEALTH. Delivered at the Annual Meeting of the Sanitary Institute in Brighton, December 16th. By ALFRED CARPENTER, M. D., Croydon.

MR. PRESIDENT: My theme this morning is "Domestic Health," or a consideration of the means by which individual health is raised or lowered, and the period of the life lengthened or shortened by domestic means. That individual life is uncertain, is a truism which every one acknowledges; and yet, in the aggregate, its value is known almost to a day. The statistician can tell to a positive certainty how many among a given number of men, women and children, *pallida mors* will call his own within the next twelve months, provided the area be large enough, and the habits and character of the population understood. If a man take his wife and family to live in a particular district—say in Liverpool, Manchester, or some other commercial center—there is a certainty that their chance of living a certain number of days is less than one-half of that which would belong to them if they came to live at Brighton. If a man determine that his sons shall become publicans or grocers (with wine license), or shall go into any business which brings them constantly into contact with the manufacture or sale of intoxicating liquor, he takes away from the lives of those sons a number of years which would be theirs if he put them into the trade of a gardener, or sent them into the Church as parish priests. We know of some of the reasons for this result. They are clear and unmistakable. Then, again, taking aggregates of children collected together: there are, or were, some streets in Liverpool in which ninety out of every one hundred of the children who were born into the world died

within the first five years of his existence; whilst the children belonging to the class of people, taken from their wretched homes and sent to such schools as those at Anerly, or the Beddington Female Orphan Asylum, have a mortality of about 3 to 1,000 *per annum*. In the one case, 900 die out of a 1,000 in five years, in the other only 15. The conditions which produce this state of things are well known; they are absent in many places; I will mention one class in particular—Her Majesty's convict prisons. In those select and exclusive establishments, the mortality is about 8 in 1,000; but, then, they are selected lives—lives picked out of the most unhealthy and disreputable classes of society. If the same rules as to health and manner of living could be observed by a similar number of persons taken from healthy stocks, and from individuals who had not damaged their constitutions by crime and debauchery, this death-rate would be still lower; 6.5 to 7 in the 1,000 is probably the normal mortality which would arise in such communities; and although we must not compare adults with children, yet a public health which should show such results would, in the course of years, add materially to the number of monogenarians in the death-list, and, in course of time, bring man up to the limit which has been placed by Providence to life on earth, viz., 100 years. I believe every person is entiiled to live to that age; and if he do not, he is deprived of a portion of his birthright, either by his own act, or by the act of other persons. There is a time when a man must go down to the grave, but it ought not to be in consequence of disease, and it ought not to be before he had passed at least ninety years on earth. Death will come, though disease need not; and death without disease would probably be more painful to men than the fact of being born into the world is to the child. Uneasiness there may be, but not that acute suffering which arises, in most instances, from a disobedience to God's laws, either on the part of the individual himself, or of the commonwealth to which he belongs, or of his predecessors or forebearers on earth.

What is disease? It is a departure from the condition of the body called health. When does health cease and disease begin? I believe that there is a border line in which the conditions necessary for the establishment of disease must have time to produce

their results before the disease actually arises. It is in this border line that the work of the sanitarian is most manifest, and is most beneficial to the community, by preventing functional disturbances and the consequences which naturally follow from the loss which sickness produces. I am sometimes asked if there is anybody living in perfect health at this particular moment. That is a question which is difficult to answer, if by health we are to understand that there is to be no disturbance of the equilibrium of function in the body. It is probable that, on this basis, there is no one living among civilized beings who is perfectly healthy, but I contend that there are great numbers in whom the border line of the disturbance of equilibrium has not been passed, and in whom disease has not yet appeared. A knowledge of, and obedience to, the laws which regulate health and prevent disease is of the greatest importance to these persons, for unhealthy home-influences will prevent them throwing off their burthen. They are not well, but they are not ill. Conflict is going on between two forces, and sanitary or unsanitary conditions may decide the issue. Disease works its way in many directions, and by a thousand and one means. There are some classes of disease which arise from the influence of morbid poisons which can produce themselves in the human body; and in these cases, each person suffering from that particular form of complaint becomes a manufactory of disease-producing particles. If these be brought into contact with other beings, they spread that particular form in geometrical ratio. There are some people, however, who are able to resist the effect of this poison, either because they have already suffered from the disease in question, and are protected from its future consequences, or because some unknown condition is present which takes away their liability to suffer from it. This class of disease is called zymotic; it includes small-pox, fevers, cholera, diphtheria, *et id genus omne*. Some individuals and some families are much more susceptible to be influenced by this class of diseases than others, and some die much more rapidly than others from their effects. The causes for these differences are not difficult to understand. The places in which such diseases will be most fatal, when the particles capable of producing them ar introduced there, are pretty well known. The conditions of pro-

ducing fatality are of man's making, and can be removed by the action of man. What are those conditions? In a few words, they are due to those changes which flow from the natural result of the act of living.

The natural products of secretion, or the excreta which are either retained too long within the body itself, or being excreted, are not passed on to the vegetable kingdom for utilization and re-application to man's wants. These excreta are the mainsprings of this class of disease. They are allowed to remain where they ought not to be. It would be as impossible for zymotic diseases to exist among us as it is for fish to live long out of water, if all excreta were rapidly removed and immediately utilized. The presence of zymotic diseases in our midst is evidence that some kind of excreta is retained somewhere in too close proximity to particular individuals, for it to be safe for those persons to continue in contact with it. We are accustomed to regard excreta as simply matters which everybody naturally passes away, or ought to pass away, into our sewers. Some of them used to be stored in cess-pools. That fatal error has been abandoned in most civilized places in Great Britain, but people now think that, if excreta be sent into sewers, all is done which is requisite for safety to health. Let the destructive effects of foul air upon our *employés* at the Government offices, and the death of Dean Stanley, answer this suggestion; let the *Times* newspaper be consulted any day in the week, and you will find in the obituary a record of some one who has been cut off by active disease, the consequence of impurity in the house, which impurity is at present scarcely suspected to have been a cause for his death. It is hidden in the neighborhood of the home, and is possibly unknown. Erysipelas or carbuncle, or so-called inflammation of some particular organ, has cut off the victim in the prime of life, and the death is at present seldom referred to its real cause, viz., foul air in the house. Any sewer which smells offensively is wrongly constructed, and is antagonistic to the public health; sewers ought not to smell; fresh sewerage does not smell, and a sewer should be as clean as a back-kitchen sink.

There is no difficulty about this cleanliness, if sanitary engineers would understand the first principles of sanitary work.

The moment any kind of excreta has passed from the body, at that moment, or as soon as temperature is reduced, there is a cessation of those actions which give rise to offensiveness. The offensiveness produced within the body is not injurious to health under ordinary conditions, otherwise every person would rapidly poison himself. That offensiveness is gaseous, and is soon dissi pated, and there is a border line of time for removal before any kind of dangerous offensiveness can arise. When it is produced, it is a proof that the excreta have been kept within range of human life too long. The offensiveness is caused by germs of molecules, capable of reproduction in a different form from those which previously existed; they are material particles, and not gaseous, which have grown in the excreted matters outside the body. They are new cultivations, and are not capable of doing serious mischief in the tissues of living persons. They are comparatively harmless within the body, until they undergo a kind of change of nature, which enables them to do things which they could not have done without that change, and which would not have taken place if there had not been something at hand to enable them to grow. This change is promoted by rest in contact with nitrogenous matters, and is opposed by motion. There are some natural conditions which entirely prevent that change in the dangerous direction. Those natural conditions are found in our mother earth, and in the growth of vegetable matter upon that earth. The changes are promoted by rest, and the atmosphere which arises in the presence of organic matter in a state of rest, viz., an atmosphere containing excess of carbonic acid. This excess is sure to increase when organic matter is changing without an abundant and continually new supply.

The first principles, therefore, of sanitary work are embodied in the immediate and direct removal of all excreta from our midst, and its conveyance to, and utilization or destruction in, those districts which Providence has designed for its reception. Six to twelve or twenty-four hours are required, according to temperature and season, before mischief can arise; but this margin of time is ample for its removal.

But some of my hearers may say, are not diseases infectious, and capable of being transmitted from one to another, irrespective

of outside sanitary work? I have to answer yes to this question; unfortunately they are; but their infective character arises from the fact I have already mentioned—viz., there is defective sanitation at home. There is scarcely a house in the kingdom in which excreta are not to some extent retained. The most civilized and luxurious home is, in some cases, carefully prepared for the cultivation of disease-germs or factors, if they come into our midst; carpets, curtains, and comforts of all kinds retain the *debris* from our skins and our pulmonary membranes; the excreta from our sweat-glands are allowed to settle upon our uncleaned windows, out-of-the-way cornices, useless ledges, and so-called architectural or upholstering ornaments; and our smoking friends spit about in a fashion which allows forcing-beds for disease germs to exist everywhere; so that, but for ventilation, the smoking carriages on our railroads would be very pest-houses, if disease-germs find admission to their floors; whilst our sensitiveness to draughts, and the way in which we heat our dining-rooms and offices, our public places of resort, our churches, and our drawing-rooms, provide a forcing-house for the growth of disease-germs which it seems almost impossible to disperse. I say almost impossible: this is only as regards the present time; for, with the growth of knowledge, there will be a gradual removal of causes; and, when the wholesale distribution of disease germs by water companies and impure sources of supply, impure food, and by sewers, is absolutely stopped, the private multiplication and spread of factors will be capable of being stamped out in a far easier and more satisfactory way than is now the case. Pure air, pure water, pure food, and temperate habits will diminish the amount of pabulum in which disease-factors can develop; and with those benefits we shall have a diminishing amount of impurity in the blood of individuals, which will gradually be effected in consequence of a more perfect knowledge of hygiene. This will render the blood and other tissues of most people so free from unnatural excreta, that, in the words of the Psalmist, "they need not be afraid of the pestilence which walketh in darkness, nor of the destruction which wasteth at noonday." (Psalm xci, v. 6.) This was a condition of things which was well known to the great Jewish lawgiver. Obedience to the sanitary laws which were

laid down by Moses, is a necessary condition to perfect health, and to a state which shall give us power to stamp out zymotic diseases. If those laws were observed by all classes, the zymotic death-rate would not be an an appreciable quantity in our mortality lists. It is the duty of the State to prevent the wholesale or general distribution of zymotic disease; and if, with public spirit acting in the right direction, we have private action in every case in opposition to its distribution, there will be a great obstruction to the establishment of factors in our midst. That action must be directed by an intelligent knowledge of the fact that every person suffering from zymotic disease is a manufactory of particles of infective matter, which particles only require to be deprived of beds in which they can increase and multiply, and then zymotic diseases will altogether disappear as epidemics.

Let us keep this fact in mind: that it is the retention of excreta without the body, which are in a state of rest, and which are not brought into contact with soils and growing vegetable life, that allows the multiplication of disease particles able to infect humanity. But we may also remember that, if that humanity be in a proper state of health, the germs may find admission to the system, but will fail to find pabulum to set up disease; or the pabulum may be so trivial in amount, that the disease is of the mildest and least dangerous character.

The chemical constituents of the secretions and of the excretions are so varied and changing, that it is easy to see that the pabulum may be very various in character; and, as each kind of disease-particle will require a different kind of pabulum, it follows that in one case the disease may be severe, and in another slight, or different in character altogether; and that the effects of the disease will depend upon the quantity of material upon which it can grow. I am of opinion that there is an analogy between the growth and development of disease both within and without the body; that the causes can only increase and multiply at the expense of used-up matter which has filled its mission in the human body, and which has not been removed in proper time from the tissues of that body, or from the neighborhood of its producers; that this used-up matter would be harmless if kept within the body only so long as may be necessary for its proper discharge.

and a disease-germ finding admission would fail to find food in sufficient quantity to live upon, and would abort, become unfruitful, and be incapable of producing evil; that it is the quantity of this pabulum which regulates the intensity of an attack of zymotic disease, assisted to some extent by the quantity or size of the dose of infective matter. A small dose takes considerable time to reproduce disease-product in sufficient amount in the tissues of the body to seriously interfere with general health, unless the pabulum be very great; but, when the dose is large, there is a more rapid reproduction, the stage of incubation is more decided, and the new crop, or new association of matter which the crop sets up, is capable of arresting some of the various functions of the body, which functions are necessary for the continuance of life. They interfere with the work of a gland, or take up material for their own nourishment which the body requires for healthy action; and so disease of organs arises which may or may not have a fatal effect, according to the amount of interference which they produce. If, however, the products of the act of life be removed from the body as soon as formed, or as soon as nature requires them to be removed, the germs of disease may be admitted without material risk; but, being admitted, the result of their action will be manifest according to the quantity of *débris* which is present for them to feed upon. They then grow, come to maturity, reproduce the minutest of the minute forms of perverted protoplasm, and, having fulfilled their mission, die a natural death. These diseased protoplasmic particles have to be expelled from the body (in small-pox, they form the pustules); and the causes of all the mischief break up into other organic forms, and become excreta from the body if health be restored. If, however, death take place, they continue to multiply after a short time in the tissues of the victim, until putrefaction has thoroughly broken up the animal matter into its simple elements. This is very easy to understand, when we remember that man produces in himself, by his own act of living, three or four of the most virulent poisons which can be manufactured. We are apt to think of the saliva of a mad dog, the secretion connected with the poison-fang of a snake, or the cause which produces the plague, as terrible things, to be kept a distance, and to be run

away from at the shortest possible notice; and yet we manufacture in our own bodies, at every moment of our lives, poisons which are as virulent as any I have mentioned, or which can be produced anywhere in nature. The carbonic acid which we expire is instantly fatal when it is inhaled in its concentrated form. The cholesterin, or some products resulting from a change in the elements which form that material, and which is produced by nerve-action in our own persons, has only to be kept within the body, in the way which does happen sometimes in some forms of liver disease, to be fatal in a few hours. The same result follows in kidney maladies, in which the kidney refuses any longer to perform its work; and, if the skin be varnished over with some impermeable varnish, an end comes to life within a few hours, from the retention of an excretion which should be made by the skin, the retention of which is also the cause of fatal effects in some eruptive diseases. These excreta exist in some shape or other in the blood, and ought to be removed as rapidly as nature designed that they should be; and yet, by our domestic habits, by our taste for stimulants, by our absurd fashions, and by our so-called civilized life, we impede the actions of those organs which excrete those poisons; we keep the products of metamorphosis of tissues about our own persons, and then wonder that nature rebels at such treatment, and sets up actions of her own antagonistic to the deadly effects which such treatment is certain to produce. It is in consequence of these antagonistic actions, to the retention of these morbid poisons, that, as an ultimate result of that sickness, the mortality of our country, as well as of all others in the world, is so much higher than it ought to be.

It is a curious and a wonderful fact, that the usual effect of the self-manufactured poisons is not painful; deaths by carbonic acid, or urea, or acholia, are comparatively painless. Pain is the outcry of those watchful sentinels which Providence has given us for our protection; it is the danger-signal to be carefully considered, by means of which the approaching mischief may be warded off. The tendency of treatment by the medical profession at the present day is rather to ease pain, than to prevent a recurrence of those evils which give rise to pain. I trust, however, that a more sensible era is approaching, and that human foresight will

take the direction which I have indicated—viz.: that of rather bearing with the pain and taking measures to prevent a continuance of its cause, than of rushing for relief of the pain itself to those agents which make us still more blind to its consequences, while we let the cause go on. I refer here more especially to the use of intoxicating liquors for assisting in perfect digestion, relieving neuralgic conditions, and obtaining an artificial and delusive warmth. The relief is obtained at the expense of a paralyzing action set up in the watchful sentinels of danger. The organic and sensitive nerves, which are the danger-signals, are put out of gear; and the train goes on heedless of the mischief, which is now hidden from feeling and personal observation. By these means, organic diseases arise in the different organs of the body. Brain, heart, lungs, liver, and kidneys, or spinal column, ultimately break down, and life is shortened in a way and by a means which is little thought of by a majority of the victims; and the daily use of alcoholic drinks assists this more than any other known agent.

Time would fail me to deal with all the causes of disease which arise from a want of proper knowledge among the people of the first principles of domestic hygiene, and of the evils which follow from a non-removal of the products of excretion, and the retention within ourselves and our houses of those deadly poisons which are manufactured by the human frame in the act of living. I must, however, remark that, as regards the outside of our bodies, it is not likely that the best method of dealing with excreta will be generally used, until public opinion has put a stop to that vicious principle which is adopted, of paying our engineers and our architects for the work they perform according to its cost, viz.: by a commission upon the cost of the work done. The great object is to expend large sums in great works, whilst the minor details, which take up the most time and cause the smallest expenditure of capital, are relegated to the care of those who have to inhabit the house after it has been built, or to keep the sewers in order after the engineer.

As regards the individual, I am of opinion that, sufficient as vaccination is at present in protecting the masses from the effects of small-pox, the right course to be followed in the prevention

the effects of infectious disease is not to be found in trying to bring into vogue new methods of vaccinating, for the prevention of cholera, diphtheria, and others of that class, but in the removing from our persons and from our habitations those *débris* which arise from the act of living, and the removal of which would render us proof against the evils caused by con'agion. However much, therefore, I may admire the efforts of Pasteur to prevent the spread of infectious disease at the present time among our domestic animals, I believe it is not the direction in which we should look in the future with regard to ourselves, except so that we may draw the inference that, as it is by cultivation that a germ becomes deadly, so, by a counter-cultivation, its deadly character may be done away with, and the disease rendered harmless. I prefer to follow upon the lines connected with the latter rather than the former contingency; and if the anti-vaccinationists were as energetic in the promotion of sanitary work, which has for its object the utilization of our excreta, as they are in antagonism to vaccination, they would be doing some good in the world, and would assist to bring about a condition of things which would render vaccination an unnecessary operation.

[Dr. Carpenter next commented at some length on the results arising from want of ventilation in homes, and the retention of carbonic acid and other excretions exhaled from the lungs in the act of breathing; reference being especially made to its influence in the production of tubercular disease.]

If it were not for circumstances connected with poverty, the poor would be rapidly swept from the face of the earth by tubercular disease; but it happens, fortunately for them, that their houses cannot be kept entirely draught-proof. Wind and storm find their way into their lodgings, and diminish the evil by diluting it, and that which they consider a misfortune is a real blessing. For dilution of the poison is an impediment to its effect. This good fortune does not apply to the same extent to the houses of the rich; they, as well as the poor, take care to exclude fresh air, and take the greatest possible trouble to keep oxygen outside, and to retain carbonic acid and its concomitants in their living-rooms. Every step which is taken to ensure comfort adds to the danger. The old-fashioned open fireplace and imperfectly fitting windows

kept the enemy at bay for a time; but the chimney-corner is gone; window-frames are made so tight that not a breath of fresh air can get in by their means; and carpets, curtains, and other so-called comforts, remove from them all its freshness. The introduction of gas for illuminating purposes adds very much to the evil; each ordinary gas-burner uses up as much oxygen as three people; and now the custom is to render the walls perfectly impervious to the transmission of air, and still greater evil naturally follows. The result is that people, especially luxurious people, live in an atmosphere in which there is a diminution of the required oxygen, with increased amount of carbonic acid, with its concomitant excreta, which in themselves are still more injurious, as being food for debased protoplasm; and then they wonder why they are out of health; why they constantly take cold when exposed to draughts; why they lose their appetite; why they cannot sleep; and why they suffer from headaches and listlessness—why, in fact, they do not enjoy life, and feel thankful to the God who made them for the blessings which might be theirs, if they understood the laws which belong to the act of living.

Suppose we look into the church where we go to give God thanks for our many blessings. A thousand people are there, each occupying a square yard of floor-space. It may be even less than this, if it be a fashionable place of worship. The seats are cushioned, and the floor at the least matted. If it be cold weather, the great object of the verger is to keep the church warm and comfortable. The temperature is carefully observed to be above temperate on the thermometer, which hangs on the center pillars. If the air in that church were examined, it would be found to be already deficient in oxygen. Instead of 20.90, it is probably 20.70. A thousand people are assembled; each of these, on the average, produces .6 cubic feet of carbonic acid per hour, or a cubic foot during each ordinary service. A thousand cubic feet of a deadly poison are exhaled into the place; and, if there were no ventilation at all, the whole of the congregation would be suffocated before the service is over, for three per cent. of carbonic acid would soon be fatal. Each person uses up 6.6 cubic feet of air per hour; and, to keep down the level of carbonic acid to its natural standard, one hundred times that quantity

of fresh air is required to be admitted for each individual. Dr. Parkes calculated that 2,800 cubic feet per hour per individual of fresh air were necessary to effect this object, beside the quantity required for the supply of gaslights, which may be used, and which are used in most places of public assembly, in the way which is most likely to damage the health of those exposed to its influence—viz.: by naked burners. The thousand people require 3,000,000 cubic feet of fresh air each hour to keep the poison within the natural limits, and at least half that amount to keep it within a safe amount. Is there any architect in the kingdom who provides this? Is there any architect in the kingdom who ever considers the subject from this point of view? The result of this neglect is the establishment of draughts, which the short-sightedness of people generally will not permit. They prefer to be poisoned by an anæsthetic painless process, rather than submit to discomfort and possible pain, with a diminution of danger.

There is also another result which follows from close packing: each person is a furnace, and thus tends to raise the temperature of the place in which the people are assembled to a point as near to 98.5° as the assembly will permit. This is a law established by Providence to prevent suffocation; for, as soon as there is a rise of the temperature of the air within the room, there is an immediate effort made by the outer air to bring it to an equilibrium. The higher the temperature, the more rapid the movement of the outer air to enter, and the more decided the draught. There is at once a cry, on the part of those exposed to the draught, to close the aperture, and check the benevolent designs of Providence, when the real indication afforded by the draught is that more openings are wanted. The offending opening is closed, with the certainty of greater injury being inflicted upon all the occupants of the room than it was possible for the draught to effect.

It ought to be an established ordinance, that architects should be called upon to provide entrance for fresh air, as well as exits for foul air, which will correspond with the number likely to be present in the building; and we ought to call upon all those who have the care of places of public resort, that there shall be an intelligent supervision of these means; that it shall not be left to

an ignorant attendant to regulate the ventilation of a place for a cold night, and alter it as temperature rises inside or falls without. Each of these conditions ought to be watched, and provision made according to the requirements of each place; and, until these conditions are considered by architects, it will not be possible to prevent people assembling in great numbers from, to some extent, poisoning each other. As to our dwelling-houses, when the public shall come to understand that pain is an evidence of some wrong conduct on our own part, or on the part of some other persons toward us—induced, it may be, by regulations for the prevention of the ingress of fresh air into the house in which we live—architects will see that provision is made for free ventilation of a character which shall not destroy by imperfect designs; and they will not obey the wrong instincts of our nature, by trying to shut out the vivifying influence which pure and frequently renewed air alone can afford.—*British Medical Journal.*

SMALL-POX IN RICHMOND.—Rumors are wild as to the estimated number of cases of small-pox in this city. At the time of our last issue, there were not over seventy-five cases of small-pox and varioloid in the city. Now there are not as many as thirty-five—so much for vaccination. Every day the number of cases is decreasing, until now there is not the slightest ground for fear of its further material spread. The city Board of Health is not only vigilant in regard to this matter, but it is now clothed with sufficient authority to stamp out the disease entirely, and in a week or two after the issue of this December number, we venture the assertion that new cases will be very rare and far between.—*Virginia Med. Monthly.*

Abstracts of Hospital Reports.

THE RADICAL CURE OF HYDROCELE.

I desire to bring before the readers of the *British Medical Journal* a procedure, which of late I have practiced with complete success, as a means for effecting the cure of hydrocele. Having tapped the cyst with a short but rather large trocar and canula, when the flow of liquid ceases, I charge a long but slender silver spoon or spatula with a small quantity of finely powdered iodoform, and slip it through the comparatively wide canula into the cavity of the tunica vaginalis, or cyst, as the case may be. A few movements of the spatula will serve to bring the iodoform into contact with different portions of the cyst wall, and, in the event of the tumor having been of large size, a second, or even third, spatulaful of iodoform may be introduced, care being taken to apply some of the powder to the upper and lower extremities of the cyst. After withdrawal of the spatula, the canula is to be removed, when the puncture may be closed by holding the skin pinched between the finger and thumb for a few minutes.

The patient experiences but little pain either during or subsequent to the operation, and, although it is not desirable that the scrotum should be subjected to rough usage, yet it is by no means necessary to keep the patient confined in his room. From my experience of the iodoform treatment, I fully anticipate that all who may give it a trial will find this method to contrast favorably with the sometimes uncertain, often painful, and always disagreeable injection of an iodine solution; whilst, as for the German plan of laying open the cyst cavity, and drawing it under antiseptic dressings, I consider the measure an unnecessarily severe one, quite uncalled for in the majority of cases.—P. J. HAYES, F.R.C.S., Ed., in *British Medical Journal.*

THE TREATMENT OF PNEUMONIA AT BELLEVUE.

The motive of the general treatment of pneumonia at Bellevue Hospital is to sustain the powers and stimulate the functions of the patient till the comparately brief and self-limited disease shall have spent itself.

The pulse is taken, rather than the temperature, as the gauge which best indicates the capacity for resistence, and an increase in its rapidity and diminution in its force are understood as a call for stimulants. The forms of stimulation used are to some extent subject to differences of opinion on the part of the visiting physicians, but all are agreed as to the value of wkisky, and there is almost as much unanimity in their regard for the carbonate of ammonium. Digitalis is much used, but it is objected to by some, partly because experience seems to indicate that in some cases, when the crisis of the disease has passed, patients are left, after its use, in a condition less favorable for recovery, and partly from the theoretical consideration that this drug is not general enough it its action. Camphor has been employed by some as a diffusable stimulant.

The general treatment of pneumonia is, then, by simple stimulation. In special conditions, however, more is done. When the patient is first seen, if he is suffering from considerable pain, a few doses of morphia are recommended. If the disease is seen at its outset, and if the outset is violent in character, one at least of the leading physicians on the visiting staff believes in the good effect of a few doses of aconite, but its use is not general in the hospital. The spirit of Mindererus, sweet spirit of nitre, calomel, and Dover's powder, are used by some in the first stage of the disease. Quinine is occasionally called to bring down the temperature when it rises to a serious height. One of the visiting physicians makes a special point of the importance of watching the kidneys and seeing that they perform their duty well.

The appearance of œdema of the lungs finds all agreed upon the necessity of pushing the stimulants. But beyond this there are some differences of practice. They would be included in the use of dry cups, the hot pack, oxygen, and, in the few cases which are entirely suitable for it, bleeding.—*Medical Record.*

ST. ANDREW'S HOSPITAL FOR MENTAL DISEASES, NORTHAMPTON.—Case of Recurrent Melancholia, with Persistent Suicidal Attempts, characterized by the swallowing of large sharp-pointed bonnet pins and quilting needles; recovery; discharge. (Under the care of Mr. J. Bayley.)

For the following notes we are indebted to Mr. T. V. deDenne:

Miss ———, aged thirty-one, was admitted October 17, 1879, suffering from melancholia. This was the second attack, and had existed two months. She had been under treatment elsewhere four years previously. She was described in "the statement" as having talked of committing suicide, and as being dangerous to others "only when restrained from attempts to escape."

On admission the patient was somewhat depressed, and expressed a wish to destroy herself. During the night it was found that she had tied the cord of a window-blind round her neck. After the first few days, in which she constantly asked for poison, she became more cheerful, although varying from time time, and either laboring under a delusion that she would ruin the place if detained or speaking of suicide.

By December 6th she was apparently so much improved that she was allowed to accompany a skating party to a neighboring meadow which was flooded, when, successfully evading those around, she threw herself into a hole in the ice, from which she was rescued with some difficulty.

On January 12th, delusions and suicidal intent meanwhile persisting, she complained of pains in the abdomen, and vomited a fluid with a red paint-like sediment, but denied having taken anything of an unusual nature. After this she continued sick, vomiting green matter, and on January 25th, being then in considerable abdominal pain, chiefly on the left side, confessed that prior to the attempt to drown herself, she had swallowed bonnet pins, and broken crochet and knitting needles. The seat of pain was now transferred from the left to the right side of the abdomen, and continued until February 21st, when she vomited a lady's bonnet pin, three inches and a half in length, without the black head, and sharp at the point. The point of the pin stuck into

the palate and had to be removed. Relief was immediate, but the following day she again began to vomit, and a hard, painful spot was observed to the right of the umbilicus. A day later the motions were found to be tinged with blood, and there were restlessness, passing into delirium, and tympanitis. On February 29, being a little more than a week from the appearance of the first pin, she passed another by the bowels of a similar kind with the head intact, and a few days afterwards two portions of knitting needles, of a larger size than the others, but of the same length.

Some time elapsed, during which she showed no mental improvement, and was more or less constipated and tympanitic.

On April 22d she passed with some pain and blood another portion of a knitting needle, and next day still another. This was the sixth and proved to be the last. Her mental condition was most variable; at one time she talked sensibly, and then she would laugh and express a wish to die, etc.

Subsequently an improvement was observable, and on September 23, 1880, being upwards of eleven months from the date of her admission, the patient was discharged recovered.

The treatment of the local symptoms at first consisted in the administration from time to time of castor-oil until the confession of the patient established their true origin, when special diet was ordered and an occasional enema was given, the tympanites, etc., being also, so far as possible, combated by the application of poultices or fomentations. Morphia was prescribed, after admission for the mental condition, but later chloral was the principal agent employed to allay restlessness and procure sleep.

Remarks.—The case is of interest as showing the length of time that foreign bodies may be retained in the intestinal canal. The first of these made its appearance about eleven weeks, and the last nineteen or twenty from the date given by the patient as that on which they were swallowed. And bearing in mind their dangerous nature, it is still more noteworthy for the satisfactory result.—*Lancet.*

Obituary.

ALEXANDER FISHER, M.D., was born in Lancaster, Worcester county, Mass., August 12, 1804. After receiving an Academic education, he began the study of medicine in 1831, under the private instruction of Dr. Geo. W. Richards, of Camillus, N. Y. He entered the College of Physicians and Surgeons at Fairfield, Herkimer county, N. Y., from which institution he received the degree of Doctor of Medicine in 1834. and afterward practiced a short time in partnership with his preceptor, Dr. Richards.

In June, 1835, he removed to Western Star, Summit county, Ohio, where he was engaged in active practice until the fall of 1849. The winter of 1849–'50 he spent in Philadelphia in medical study; and in the spring of 1850 he resumed practice in Akron, Ohio. In 1854, failing health obliged him temporarily to suspend his professional work. Having regained his health, in the following year he removed to Chicago, where he continued faithfully to practice his profession until the infirmities of age compelled him—not long before his death—to relinquish its labors.

He was modest and unobtrusive in his manners, but gave to each recurring day as much patient labor as was necessary for the faithful performance of its duties. He dealt honestly with his patients; he had a nice sense of professional honor; in every walk of life he was a worthy citizen, and enjoyed the respect and esteem of all who knew him. Though engaged in general practice, he gave especial attention to surgery, and among his operations of interest may be mentioned a case of ligature of the external iliac artery, published in the *American Journal of the Medical Sciences*, April, 1856. He served for a term as a volunteer surgeon in the war of the rebellion. He was Emeritus Professor of Surgery in the Woman's Hospital Medical College, and a member of the Chicago Medical Society, and also of the Society of Physicians and Surgeons, of Chicago. He died Feb. 15, 1882. Though twice married, he died a widower, leaving two sons in business in Colorado.

THE Chicago Medical Society, at the meeting held on March 6, voted the following resolutions, and recommended their publication in the medical journals of the city:

WHEREAS, Alexander Fisher, M.D., an honorable, eminent and efficient Fellow of this Society, in the ripeness of his years, and after a long and successful practice of medicine and surgery, has been called to his reward in another stage of existence, where pain is unknown and the weary are at rest; be it therefore

Resolved, That whilst we recognize the fiat of our Heavenly Father, in removing our friend and Fellow from our midst, as the inevitable destiny of man, it is yet with sorrow we remember that we shall see his face no more, nor again listen to his voice in the councils of this society.

Resolved, That a committee of three be appointed by the President to present these resolutions to the family of the deceased Fellow, with expressions of our sympathy and sorrow.

DRS. JOHN BARTLETT,
G. C. PAOLI,
R. C. HAMILL,
D. W. GRAHAM,
} Committee.

At the meting of March 20 the following committee was appointed to present the same resolutions to the family of the deceased: Drs. N. S. Davis, L. H. Montgomery and A. Reeves Jackson.

E. I.

AT a special meeting of the Alumni Association of Cook County Hospital, held at the Grand Pacific Hotel, the following resolutions were passed with reference to the demise of Dr. D. S. Root, an old alumnus. Just as the Association was congratulating itself upon its integrity it became its painful duty to record its first death:

WHEREAS, It has pleased Providence to remove from our midst a beloved brother,

RESOLVED, That in the death of Dr. D. S. Root this Association, and the medical profession as well, have lost one who had gained an enviable position in his chosen calling.

RESOLVED, That in his life we recognize an example of great industry, unsullied integrity and excellent scholarship, which made his career of great service to his fellow-men and his death deeply regretted by all with whom he has been associated.

SOCIETY MEETINGS.

Chicago Medical Society—Mondays, April 3 and 17.
Chicago Pathological Society—Monday, April 10.
Biological Society—Wednesday, April 5.

CLINICS.

MONDAY.

Eye and Ear Infirmary—1.15 p. m., Otological, by Prof. Jones; 2.15 p. m., Ophthalmological, by Prof. Hotz.
Mercy Hospital—2 p. m., Medical, Profs. Hollister and Quine.
Rush Medical College—3 p. m., Dermatological and Venereal, by Prof. Hyde.
Woman's Medical College—2 p. m., Dermatological and Venereal, by Prof. Maynard; 3 p. m., Diseases of the Chest, Prof. Ingals.

TUESDAY.

Cook County Hospital—2 to 4 p. m., Medical and Surgical Clinics.
Mercy Hospital—2 p. m., Surgical Clinic, by Prof. Andrews.

WEDNESDAY.

Chicago Medical College—2 p. m., Eye and Ear, by Prof. Jones.
Rush Medical College—2 p. m., Medical, by Dr. Bridge; 3 p. m., Ophthalmological and Otological, by Prof. Holmes; 3:30 to 4:30 p. m., Diseases of the Chest, by Dr. E. Fletcher Ingals.
Eye and Ear Infirmary—2.30 p. m., Dr. E. J. Gardiner.

THURSDAY.

Chicago Medical College—2 p. m., Gynæcological, Prof. Jenks.
Rush Medical College—2 p. m., Diseases of Children, by Dr. Knox; 3 p. m., Diseases of the Nervous System, by Prof. Lyman.
Eye and Ear Infirmary—2 p. m., Ophthalmological, by Dr. Hotz.
Woman's Medical College—3 p. m., Surgical, by Prof. Owens.

FRIDAY.

Cook County Hospital—2 to 4 p. m., Medical and Surgical Clinics, by Profs. J. H. Hollister and R. N. Isham.
Mercy Hospital—2 p. m., Medical, by Prof. Davis.

SATURDAY.

Rush Medical College—2 p. m., Surgical, by Prof. Gunn.
Mercy Hospital—2 p. m., Surgical Clinic, by Prof. Andrews.
Chicago Medical College—3 p. m., Neurological, Prof. Jewell.
Woman's Medical College—11 a. m., Ophthalmological, by Prof. Montgomery; 2 p. m., Gynæcological, by Prof. Fitch.
Daily Clinics, from 2 to 4 p. m., at the Central Free Dispensary, and at the South Side Dispensary.